

# MANUFACTURERS' RECORD.

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER.

VOL. XXXVIII. No. 25.  
WEEKLY.

BALTIMORE, JANUARY 10, 1901.

\$4.00 A YEAR.  
SINGLE COPIES, 10 CENTS.

## Manufacturers' Record.

PUBLISHED EVERY THURSDAY BY THE  
Manufacturers' Record Publishing Co.  
RICHARD H. EDMONDS, President.  
OFFICE: MANUFACTURERS' RECORD BUILDING,  
BALTIMORE.

RICHARD H. EDMONDS,  
Editor and General Manager.

THOMAS P. GRASTY,  
General Staff Correspondent.

SUBSCRIPTION, - - - \$4.00 a Year.  
TO FOREIGN COUNTRIES, - - 25c. 6d. a Year.

BALTIMORE, JANUARY 10, 1901.

### Where To Advertise.

THEO. HIERTZ & SON,  
Smetlers and Refiners of Ore, Dross and  
Metal.  
2935-2937 Park Avenue,  
St. Louis, Mo., December 21, 1900.  
Manufacturers' Record Publishing Co.,  
Baltimore, Md.:

Gentlemen—In reply to yours of the 17th  
inst.: For several years past we have adver-  
tised in the Manufacturers' Record, and it  
has proved of great value to us as an adver-  
tising medium. We surely would not have  
renewed our advertisement for 1901 if the re-  
sults had not been satisfactory. In the past  
year we received several good orders and  
numerous inquiries through the ad. carried  
in your paper, and we are very well pleased  
with the results. We believe the Manufac-  
turers' Record the only paper in its line to  
advertise in in the South.

Very truly yours,

THEO. HIERTZ & SON,  
E. J. HIERTZ.

### More Than Tiresome.

The alleged representative of a town  
improvement association in a Southern  
State, who has been mentioned several  
times in the Manufacturers' Record as  
sending questionable letters to repu-  
table business men, must be a volumi-  
nous correspondent. Another letter  
from him has turned up. This time he  
writes to an officer of a Southern finan-  
cial institution as follows:

Yours of the 17th Was Read Several Days  
ago. I will Say that a Cotton Mill Will be  
Erected Here Early the First of Next Year.  
We want to Organize a Netting & Hosiery  
Mill here and Write to ask you Case we  
should need any capital to Run it Could you  
use your Influence or Would your Company  
advance Us money on Mortgage of the  
Property Anything you Can Do for us  
Would be appreciated and It May be of In-  
terest to your Company. Very Respt

I would add as a suppliment to my letter  
of this AM, If you Could Get any parties  
Interested to Come Here, and If your Co  
Would Engage Me at a small Compensation  
I Will assure That I can Get for your Com-  
pany as a Bonus two or Three Hundred  
acres of Land In the Way of Inducements.  
I would work through you and your Com-  
pany. after the Land is Turned over to you  
you can Divide it at best advantage to Fac-  
torys. I Have already a Grant of 100 acres  
for the Cotton Mill. I Hope to Hear from  
you of Cours I will expect a Consideration  
for my Infuence & Trouble. Write Me a let-  
ter that I can Show to the Property Holders  
& you Can Write me private as to what you  
will allow me for my Infuence & Work in the  
matter Very truly yours."

If these letters are genuine it is time  
that the recipients of them should take  
steps to bring the matter to the atten-  
tion of the community which their  
writer is supposed to represent.

### The Cry of Industrialism.

Most notable of the features of the  
annual meeting of the Southern Educa-  
tional Association at Richmond, Va.,  
was the prominence given to the sub-  
ject of technical training. Its discus-  
sion was in a certain measure the  
chorus of a song which has been heard  
as a solo with greater and greater fre-  
quency in different parts of the South,  
and a song which ought to be merged  
in the music of hundreds of cotton  
mills, foundries, rolling mills, flour  
mills and machine shops. Already  
such centers of industry are partici-  
pating in the concert by doing a little  
technical training on their own ac-  
count. They are educating thousands  
of boys and girls and young men to  
habits of industry and application and  
to a certain skill in the operation of the  
machinery so much needed in the  
South. But in the nature of things  
they cannot go far enough to meet all  
demands. The cry for industrial train-  
ing made by the Southern educators at  
Richmond means something greater  
than ability to earn a daily wage tend-  
ing a machine of one kind and another.  
It is explained by the suggestions here  
and there of men in close touch with  
industrial conditions and qualified to  
judge of their needs. For example, in  
his elaborate report of the work done  
at Clemson College, S. C., President  
Hartzog goes to some trouble to ex-  
plain the workings of the textile de-  
partment and the work it is doing in  
acquainting young men with the pro-  
cesses of the manufacture of handsome  
gingham towelings, mercerized goods  
and other fine fabrics, and he illus-  
trates the industrial importance of  
such education by calculations show-  
ing that South Carolina's cotton crop  
of 800,000 bales, worth, at seven cents  
a pound, \$28,000,000, would, if manu-  
factured into twills at thirty-two cents  
a pound, be worth \$128,000,000; into  
satin weaves, at seventy-five cents a  
pound, \$300,000,000; into mercerized  
checks, at one dollar a pound, \$400,000-  
000, and into imitation swivel silks, at  
two dollars a pound, \$800,000,000.  
Then, too, President George T. Win-  
ston of North Carolina College of Agri-  
culture and Mechanic Arts makes a  
plea that the rapid growth of manufac-  
tures in the State, the opening of new  
industries, the utilization of water-  
power, the development of intensive  
and diversified agriculture, the increase  
in the number of electric plants, water-  
works, cold-storage plants and similar  
industries requiring machinery are cre-  
ating an increasing demand for engi-  
neers, draughtsmen, electricians, ma-  
chinalists, mechanics, textile workers,  
dairymen, stockmen and farmers which  
North Carolina ought to supply, and  
which the college is intended to help  
it to supply. Tennessee is agitating  
for greater attention to be given to in-  
dustrial training; the regents of the  
University of Texas in their last report  
recommend that the young men of the  
State be given facilities at home for  
technological education, so that a

change may be made in a situation  
which shows that of the employees in  
responsible positions where any me-  
chanical skill or technical knowledge  
is demanded less than 5 per cent. are  
native Texans, and Governor Jones of  
Arkansas will advocate the passage by  
the coming legislature of that State of  
an act providing for the establishment  
of a textile school.

The cry is becoming stronger. The  
men who hope to gain prominence in  
the future politics of their respective  
States should not delay in heeding it.  
It comes from a strong belief that the  
South, with all its advantages, though  
not sufficiently fitted to meet the duties  
of the nearby future, is capable of fit-  
ting itself in time.

### Politics for Business.

At the January session of the New  
York Chamber of Commerce Mr. John  
A. Kasson, who, as a special commis-  
sioner to negotiate commercial treaties,  
has had opportunity to strengthen im-  
pressions gained in long congressional  
service regarding the relations of trade  
and legislation in this country, sug-  
gested a commission of experts as a  
guide to intelligent handling of com-  
mercial matters by Congress. He said:

The inherent vice of our representative  
electoral system is that it is based too  
exclusively on purely political allegiance.  
The primary, in certain places the only question,  
is one of party ties. There is never a nomi-  
nating committee to pass upon the question  
of fitness of the candidate's knowledge of  
the business interests and requirements of  
the community he is to represent. He may  
be absolutely ignorant of its industries, its  
productions, its markets, its capability of  
development and of the relation which all  
these interests bear to the system of taxa-  
tion, or to the general legislation of the coun-  
try, and still he will be elected by the force  
of mere political organization. Thus, the  
material interests of the community are  
often practically without intelligent repre-  
sentation.

After detailing the effects of such  
politics, he proposed as a remedy that  
provisions of special bills bearing upon  
trade relations should be submitted to  
an impartial board of experienced and  
intelligent business men for their criti-  
cism. He proposed that the leading  
chambers of commerce and boards of  
trade of the country should devise the  
means for the creation of such a board  
thoroughly representative of the com-  
mercial, industrial and agricultural in-  
terests of the country, with an able  
man as secretary, who should have an  
office at the national capital, so that he  
could be the medium of quick commu-  
nication between his immediate con-  
stituency and the government touching  
all matters of legislative and executive  
action affecting their interests. The  
representative board, he said, could  
also lead in suggesting measures pro-  
motive of the general welfare, and  
would be in a position to furnish com-  
plete practical information desired by  
officials for their guidance and act as  
a center for combined action of trade  
and industrial interests in all parts of  
the country whenever occasion might  
demand it.

This plan of Mr. Kasson's, tentative,  
as he acknowledged it to be, may be  
attractive in theory. But in practice  
it would probably result only in an in-  
crease of the confusion and unneces-  
sary expense already involved in na-  
tional legislation. More than one or-  
ganization of business men representa-  
tive of the influences making for the  
healthy development of the country are  
already obliged to spend considerable  
sums of money annually in keeping  
close watch upon Congress in the hope  
of preventing dangerous action and in  
the desire of promoting much-needed  
measures. Such a custom is the growth  
of years of experience, and it is not  
likely to be abandoned because of the  
creation of a new representative body.  
The energy spent this way at Wash-  
ington is often misdirected, however  
well intended. The person upon whom  
it should be exerted is not the con-  
gressman after he has taken his seat,  
but the man who is anxious to take his  
seat in Congress. Its proper place is  
not Washington, but in the little local  
gatherings where plans are laid and  
influences set to work which determine  
who shall represent a certain commu-  
nity. The questions frequently decid-  
ing the fitness of a candidate is not  
his qualification to deal with the large  
matters involving the making or the  
marring of his country's future, but his  
ability to string together words in a  
form tickling the ears of his constitu-  
ents bound to particular parties be-  
cause their father voted that way, his  
willingness to serve the ends, generally  
selfish, of the groups of managers who  
tender him the nomination, his fami-  
liarity with the strong points of dead  
issues, or his skill in manipulation of  
his fellows. Of course, there are ex-  
ceptions, and notable ones, too. But  
too often the business man in Congress  
is dominated more by the desire to ef-  
fect legislation of benefit to his par-  
ticular locality or section than by the  
purpose to give all parts of the country  
the opportunity to share the good flow-  
ing from broadminded, liberal meas-  
ures. Even where a man may be in-  
clined to merge politics in statesman-  
ship he is hampered by the fact that  
what is known as representative gov-  
ernment is in reality government by  
committees, a result of the unwieldi-  
ness of the House of Representatives,  
and that above all looms the power of  
the party caucus.

The business interests of the country  
should make it impossible for any party  
caucus to bind a Congressman to any  
line of conduct detrimental to the ma-  
terial welfare of the land, and thereby  
would save a waste of money, a waste  
of time and a waste of energy. They  
have demonstrated more than once in  
recent years their ability to turn a na-  
tional election in the right direction.  
But an expression of public opinion re-  
corded in the choice of a chief execu-  
tive is of little practical use if Congress  
be not of the same mind, except as an  
indication of the power of the business  
element in politics if it chooses to exert



itself. The mere recording of public opinion, without the power to enforce it, is not unlike the policy of building spasmodically temporary dams against a flood instead of directing the waters into substantial reservoirs, whence they may be distributed as occasion demands for irrigation and for the preservation of the steady flow of a stream in the lowlands. If the business interests of all parts of the country could be united to work harmoniously, they should direct their efforts upon the primary meetings of parties and thereby insure the choice of suitable men to carry out the promises of parties occupied with the politics of business.

### Unification of Railway Interests.

In its fourteenth annual report the interstate commerce commission has a great deal to say about the tendency of railway combinations for the purpose of limiting or eliminating competition. The commission finds that no competition is so destructive as that between railways, inasmuch as a weak, round-about, bankrupt line can often inflict as serious damage as a prosperous rival; that no kind of property lends itself so readily to the permanent formation of such combinations as railroad property, and that where there can be no agreement in the operation of independent railways under the operations of the interstate commerce act and the anti-trust act, it seems inevitable that there shall be unity or agreement in their ownership. Considering what already has been done in that direction, and what is undoubtedly in contemplation, the entire feasibility of such schemes, the very great advantage which would result to the owners of the companies involved, and the fact that the step, once taken, is seldom retraced, the commission is impressed with the conviction that in the immediate future the main transportation lines of this country will be thrown into great groups controlling their own territory, and not subject with respect to most of their traffic to serious competition.

The commission, in expressing this belief, demonstrates that in spite of some of its manifestations it is able to read the signs of the times, even though they may point to additional reasons for the non-existence of the commission. In natural reaction against the wastefulness which long characterized the construction and the operation of American railways, the tendency in the past ten or fifteen years has been toward the incorporation into strong systems of weak, so-called independent lines of transportation, under reorganization planned by astute financiers, who act upon the principle that the same methods should prevail in railroading as in any other form of investment. With increasing force the movement for consolidation has increased and the basis has been neared for intelligent, well-directed, united conduct in the operation of the bulk of the 200,000 miles of railways in the country. The events of the past few days mirrored in the large financial operations in New York but point to a culmination of a natural process hastened by legislation adverse to railway interests, such as that embodied in the creation of the interstate commerce commission. In the face of a menace against the safety of all investments in railroads the management of the great systems have felt that the time has come for a cessation of natural rivalry among

themselves. The ultimate situation is not in sight, but it is taking the form of the operation in absolute harmony of the five great groups of allied railways representing probably 60 per cent. of the total mileage in the country, with the probability of a unity of all. The immensity of the plan, now apparently reaching a finality, is illustrated by the statement that it will enable a man to take passage at Southampton, England, to travel by steamship to New York, by rail to the Pacific coast and again by steamship to Hong Kong, China, and pay his entire fare to J. D. Rockefeller, J. P. Morgan and J. J. Hill. Of course, the interstate commerce commission takes a gloomy view of such a combination, but even that body, referring to its possibility, sees something to be thankful for, for it says:

Such a condition is not without its benefits. The evils which competition begets will largely disappear with that competition, and many of the worst forms of discrimination will cease. Owing to wasteful competition, transportation by rail actually costs more than it ought. To eliminate that competition will be to work an actual saving in the cost of service, and this should redound to the benefit of both the carrier and the shipper.

Another point of advantage in such a combination not mentioned by the commission is the possibility that legislation affecting transportation interests will become more simplified and directed more intelligently than ever before. It should mean a great saving in national taxes and State taxes by the elimination from the field forever of such encumbrances as the interstate commerce commission and its imitations, hardly less menacing, in the several States, and the suppression of the class of politicians who have been permitted to flourish solely because of the conflicting interests of rival lines.

### Fruits of Conservatism.

In his inaugural address Governor Longino of Mississippi ranged himself in line with the sentiment which is making the progressive South. He showed his belief in capital and in the policy of encouraging capital to seek profitable investment. Mississippi has already experienced the good effects of that address. These are pointed out in a letter to Governor Longino from President Stuyvesant Fish of the Illinois Central Railroad Co. as follows:

My Dear Governor—As an evidence that the broadminded utterances in your inaugural address of a year ago have borne fruit, and will bear more, permit me to bring your attention to the fact that, with the exception of Wyoming, West Virginia and your neighbor, Louisiana, Mississippi has shown, in the calendar year now closing, the largest ratio of increase in mileage of any State. This statement may seem overdrawn for various reasons. There are, therefore, inclosed herewith a copy of the Railroad Gazette of December 28, 1900, on page 863 of which will be found an article on new railroad building in 1900, and a copy of the figures given in the report of the interstate commerce commission, entitled "Statistics of Railways for 1899," as to the miles of railroad in operation in each State and Territory on June 30, 1899, to which there have been added figures showing the number of miles built in 1900, as reported by the Gazette, and the ratio of increase.

In congratulating you on the showing made, I have no hesitancy in expressing the belief that we have seen the last of legislation tending to repress the investment of capital in Mississippi, and that under your wise guidance railroads and other moneyed corporations can count with confidence on the cordial co-operation and assistance of the State government in all its branches in their efforts to develop the vast latent resources of the State. In closing permit me to assure you of our sincere regard and best wishes to you and the good people of Mississippi for the coming year and for all time.

### Real Estate Agents Wanted.

Mr. William A. Blair, vice-president of the People's National Bank, Winston, N. C., writes to the Manufacturers' Record that the business people of that city are anxious to induce two or three good real-estate agents to locate in Winston.

It is a rather surprising situation that a town as prosperous as Winston, and with such a solid basis for continued growth by reason of its large manufacturing interests, has to go outside and seek to find real-estate men to come in. It ought to be an exceedingly attractive place for some good, live, hustling real-estate people.

The point made by Mr. Blair, to the effect that real-estate agents are needed in order to assist the business people of the city in taking advantage of the development already made and of the opportunities for further progress, is sometimes not fully appreciated. As a matter of fact, the growing, prosperous sections and towns of this country owe far more to their real-estate agents than is generally understood. They are the men who hustle for new capital and for new industrial enterprises, and who, keeping in touch with business opportunities, do most to advance the progress of their section. Sometimes, it is true, a "boom" spirit may carry the real-estate agent too far, but when the "boom" spirit prevails the real-estate agent is no more to blame than other people in the community. The steady advancement of any community is largely dependent upon the brains and energy of its real-estate men.

### Gauging Southern Streams.

On another page of this week's issue of the Manufacturers' Record is a suggestive article on the value of steam gauging by Mr. John W. Hays of Petersburg, Va. For a number of years Mr. Hays was with the United States geological survey, having part in the work which was designed to reclaim by irrigation arid lands of the West. Later he entered upon independent hydraulic work in the South, and he has since been engaged in the investigation of development of hydraulic powers, particularly the reporting upon possible powers on Southern mill streams, in which branch of engineering he is regarded as an expert.

### Faith in the South.

In renewing a subscription to the Manufacturers' Record Mr. John A. Hodgkin, secretary of the Cape Fear Manufacturing Co. of Greensboro, N. C., writes that he desires to express his appreciation of the journal, and adds:

This appreciation is not confined to its value as a trade journal, great as it is in that respect; but for your faith in the South, its resources, its present development and future possibilities; for the faithful denunciation of error in both business and politics, for your able championship and wise leadership—in all this, we hope you receive the heartiest approval from a Southern business man.

### West Virginia's Coal Output.

The report of the mine inspector of West Virginia shows that the total output of coal for that State during 1900 was 22,000,000 tons. In 1889 the total output for West Virginia was 6,230,000 tons; by 1894 this had increased to 11,600,000 tons, and by 1898 to 16,700,000 tons, from which point there is now a jump to 22,000,000 tons. The development of the coal interests of that State is one of the most remarkable facts in the industrial history of the country.

### GOOD TIMES IN THE SOUTH.

Survey of Recent Development from a New Orleans Standpoint.

[Special Cor. Manufacturers' Record.]

New Orleans, La., January 5.

Great prosperity, abundant and universal, is the dominant tone one hears in this metropolis, on the railroad trains and everywhere throughout the South. The merchants, the manufacturers, the railroad men, the planters, the farmers and the men who labor for day's wages all wear smiling faces, all have money in their pockets, and most of them in bank, and it is a universally accepted fact that never before has the whole South been so well off.

Everywhere the optimistic view prevails, and it is the current belief that what has been seen this year is but the beginning of an era of good times which will not end until there has been a development of the South's resources somewhat approaching that which has occurred in the other sections of the Union. And it is because there are such magnificent resources, and because they are yet so far from even partial development up to their capacity, that the belief in so many years of prosperity to come is so persistent. Of course, the pessimists are not altogether absent even here and now, for, like the poor, they are always with us, always everywhere. But they are wholly of that type of man who has direful forebodings in the face of any fortune. Offer to give such a one a million dollars, and he would at once begin to enumerate the trials and cares and fearful responsibilities which vast wealth entails. And so the prevailing sentiment is one of great courage, strength and confidence.

Attempting an analysis of the situation and its causes, it is proper enough to lay stress on the great fact of ten-cent cotton, but that does not account for all of the metamorphosis in the spirit of the people and in the conditions that prevail. For one thing, it is astonishing to the Northern man, who only sees the tabulated election returns, to find how reassuring to business interests here has been the re-election of McKinley. Voting the democratic ticket, no matter who the candidate or what the platform is, is a habit down here, like some people go to church—they don't mean it. And so it comes that there is much rejoicing and much confidence in the future because of the belief that present opportunities are to be continued for four years more at least.

Another moving cause of present prosperity is the confidence in themselves which comes from achievement. Required toil brings greater, constant effort. It has been a good many years since the first efforts at development were made in the South, but so much more has been done within the past few years in accomplishing large results and in attracting the attention of Northern and Eastern capital to the magnificent resources of the South that the people of the South are now encouraged to throw all their energy into the development work, and this they are now doing as never before. The magnificent railroad trains one rides on in coming into the South, the factories to be seen, finished and in process of construction, all along the line, and the extensive improvements which are found to be under way in many of the important municipalities of the section, these are visible, ever-present evidences of the spirit of progress abroad in the land. These manifestations convince one that the stories heard of the South's prosperity are founded on deep-seated, all-pervading facts.

I don't think it is wide of the mark to



lay a good deal of stress on the important part which has been played in the general prosperity by the diversification of crops which has quite generally followed the insistent advice of the best friends and counselors of the Southern farmers. In cases numerous and widespread cotton was this year the farmer's "velvet." He would have been independent had his cotton crop been a failure or brought less than cost. It looks as though this lesson has begun to take deep root and that hereafter the ruinous policy of planting one crop and buying everything needed for the support of man and beast will be honored more in the breach than in the observance.

How the South has captured and now holds a strong, almost a dominating, position in the iron market of the world is a story daily told in the commercial columns of the newspapers. How New England has come to bow to the cotton manufacturers of the South has become a quite familiar fact. But there are other lines in which an important development is going on about which there is not so great popular knowledge. In railroad-building the South and Southwest now show a great degree of activity, but if anyone will take even a casual survey of the map of the section it will become apparent that railroad-building down here is by no means yet complete. There are several north-and-south trunk lines of great importance and which probably will meet all requirements for many years to come, but an examination will show large areas wholly devoid of transportation facilities. And yet in many of those sections there are vast forests of the finest timber, minerals of great variety and commercial value, and land which, when cleared, will make as good farms as lie outdoors. Already there are numerous undertakings on foot in the way of building small branch lines to open up tracts of the character named, and it is evident that here will be a rich field for development work by both railroad constructors and real-estate operators. Take Mississippi as an illustration. Off the line of the railroads there are thousands and thousands of acres of timber which will cut from 10,000 to 20,000 feet to the acre, and when cleared they will produce a minimum of a bale of cotton to the acre, as well as other crops. These lands may be bought for from \$6 to \$10 per acre. The soil is an alluvial deposit, and, like the famous black lands of Texas, which now bring from \$30 to \$50 per acre, these lands can be worked for years without using any fertilizers.

The idle timber lands of this section alone, it seems to me, offer opportunities for almost illimitable profitable operations. The distance between the development of any one of these Southwestern States and the conditions which prevail in Massachusetts, for instance, reveals the reason why the South is today pointed out as the section above all others where the young man seeking a location will find more opportunities than in any other part of the nation. There is so much to do down here and the rewards are so certain and so rich that there is a disposition to wonder why any ambitious young man will remain in the overcrowded East and North, where conditions are fixed and opportunities for original individual effort growing less every year, while in many parts of this country almost primitive conditions prevail and a development work remains to be done which it will take generations to accomplish.

While on the subject of timber lands I must record an astonishing change which has occurred since I was down here about five years ago. At that time timber lands

were almost a drug in the real-estate market, and any amount of good lands could be bought for somewhere around \$2 an acre. Now one has to hunt for "bargains" at anything less than \$5 an acre. Lumbermen from Michigan and Wisconsin have come in and bought up tracts by the tens of thousands of acres. Good yellow-pine lands are being but infrequently offered, and prices have jumped up at least 100 per cent. all around. Five years ago the red-cypress men, who were then feeling blue over the dull condition of trade, agreed with a promoter to sell out their holdings, plants and all, for \$7,000,000. Today these same people, who compose about 80 per cent. of those engaged in the red-cypress industry, and own at least that proportion of the available, merchantable red-cypress timber standing, would hardly sell for \$25,000,000, and red-cypress timber lands, which could be bought for \$6 or less then, are snapped up now at \$12 per acre.

Of the bettered conditions in New Orleans itself much might be said. There is evidence at hand in the manner and talk of the people themselves that they have more than ever before caught the spirit of progress which has taken possession of all the South, and the miles of asphalted streets give immediate outward evidence of the new era which is at hand. New Orleans suffered much from the quarantine against her in the fall of 1897, 1898 and 1899, a quarantine which has come to be regarded by many as uncalled for, and coming after an immunity from fevers of so many years' extent, there was dismay and discouragement in many quarters. But if that drastic experience was the moving cause of the determination to at once establish a drainage system and a sewerage system of the utmost efficiency, perhaps the fearful spur to activity was not too dearly gained. Certain it is that the remedy is to be made adequate, and quarantines are to be a thing of the past. A drainage system which is the admiration of the engineering world is now in operation, and with the \$12,000,000 of sewerage bonds which have just been sold a complete sewerage system is to be put in with the least possible delay. That this will mean more to New Orleans than anything her people have ever done for her is a foregone conclusion. As an advertisement alone it will be worth all the money which the taxpayers have so heroically pledged their possessions to pay. There was no quarantine against New Orleans the past fall, and the merchants suffered no interruption of the splendid business which set in with the raising of the quarantine the year before. As a consequence, there never was such a volume of business done in the history of the city as during the holidays just over.

The trade of New Orleans is greatly increasing and expanding. No community is more earnestly interested in the construction of the Nicaragua canal, and none expects more direct benefit from its operation. "It will put the mouth of the Mississippi in the Pacific ocean" is the epitomized conclusion of the people here, and already plans are being laid according to this view.

Manufacturers, merchants and machinery men look for the future export trade of New Orleans to be one of the great big features of American commerce, and with it all there is expected to come such a rehabilitation of the fine old Crescent City as will be the marvel of the next decade of Southern development.

ALBERT PHENIX.

Mr. Robert Hunt has been appointed division passenger agent of the Southern, with offices at Charleston, S. C.

## A NATIONAL PROBLEM.\*

By the Hon. Marcus A. Hanna, United States Senator from Ohio.

In complying with the request of The Independent for an article on the subject of reviving our shipping in the foreign trade, I shall assume that I am addressing a class of readers whose economic convictions are somewhat at variance with my own; and I do this because I am aware that the editorial position of The Independent is one of opposition to the economic principles in which I believe, as has been shown specifically in its discussion of this subject of reviving our merchant marine.

Before the country today the method by which American ships shall be restored to the seas seems to be the only point of difference. I take it that the people as a whole are almost a unit in desiring to see American ships do our foreign carrying. They see the foreign commerce of the United States approaching in value the two-and-a-half-billion-dollar mark, and they see foreign ships carrying over 90 per cent. of that commerce, collecting, in freight charges, something like \$175,000,000 for the service. And a large majority of the people, I believe, are anxious to see something done that shall keep this vast sum of money in the United States, instead of seeing it sent abroad.

There is one class of our people that is opposed to the protective policy, and I think they constitute a minority of the people. The rest believe in the justice and the effectiveness of that principle. The first-named oppose all forms of government aid or encouragement for the building up of any industry, on the ground that it is uneconomical—that it is, rather, wasteful and extravagant. The others favor it, believing that it is wise economy to do that for ourselves which our resources and our abilities enable us to do, expecting in the end that the competition that is engendered among our own people will reduce the cost of production to the lowest point that the whole people desire it reduced.

It has been held, however, by some of the wisest leaders in the free-trade school of economics that in the matter of shipping and of seamen there is justification for a complete reversal of the principle upon which free trade is founded. For instance, says Adam Smith, in his "Wealth of Nations?"

"There seem, however, to be two cases in which it will generally be advantageous to lay some burden upon foreign, for the encouragement of domestic industry. The first is, when some particular sort of industry is necessary for the defense of the country. The defense of Great Britain, for example, depends very much upon the number of its sailors and shipping. The act of navigation, therefore, very properly endeavors to give the sailors and shipping of Great Britain the monopoly of the trade of their own country, in some cases by absolute prohibition, and in others by heavy burdens upon the shipping of foreign countries."

Adam Smith then discussed the laws then in force by which Great Britain protected her shipping, and said further:

"When the act of navigation was made, though England and Holland were not actually at war, the most violent animosity subsisted between the two nations. It had begun during the government of the Long Parliament, which first framed this act, and it broke out soon after in the Dutch wars during that of the Protector and of Charles the Second. It is not impossible, therefore, that some of

the regulations of this famous act may have proceeded from national animosity. They are as wise, however, as if they had been dictated by the most deliberate wisdom. National animosity at that particular time aimed at the very object which the most deliberate wisdom would have recommended, the diminution of the naval power of Holland, the only naval power which could endanger the security of England."

I shall not attempt to dilate upon the points thus made in behalf of an exception to the general principle of free trade by this famous old writer on the subject. Many of them are so perfectly obvious as to need no comment. It should be said, however, that John Stuart Mill, writing a full half-century later than did Adam Smith, fully indorsed all that the latter said with respect of the reasons justifying a departure from the principle of free trade in order to secure, at any cost, ships and men.

The modern free-trader seems to think that if a nation will, by law, permit the registry of foreign-built vessels, it has done all that it should do for the upbuilding of its shipping. Strange to say, in order to back up this position, reference is usually made to the success of Great Britain as a result of her free-ship policy, whereas Great Britain's success has not at any time rested upon the free registry of foreign-built vessels, as almost all of Great Britain's shipping is British built. It must be manifest that a law which admits to British registry foreign-built ships, under which no foreign-built ships are registered as British, can be of no benefit to Great Britain as a nation, or to her people as shipowners. Another strange thing in this very connection is the fact that the advocates of free ships as a rule fail to point out wherein it has been of such advantage to other nations in building up their merchant shipping. My information is that few, if any, of the great powers deny to their citizens the right to register foreign-built vessels under their own flag. Since this includes many nations which operate their ships much more cheaply than British ships are operated, and yet free shipping laws have failed to substantially, if at all, increase their merchant shipping, how may we, a nation under whose flag ships are operated at a much greater cost than is the case with ships under any other flag, expect to make a success of building up our mercantile marine under a free-ship law alone? While I am on this point I will add that I have met quite a number of citizens who happen to own foreign-built ships and are now operating them under foreign flags. Not one of these have ever suggested to me the repeal of our law that limits our registry to home-built ships. I am told, and I sincerely believe, that the mere privilege of registry would not induce any of these owners to put their ships under our flag. The extra cost of running a ship under the American flag that is now being operated by an American citizen under a foreign flag would, I am informed, place him at such a disadvantage in his competition with other ships under foreign flags as to ruin him. And I believe this to be true. The demand for free ships in the United States has never come from the shipowning class. If free ships would be such an advantage, this is the class of our citizens which should first realize the fact and seek to take advantage of it.

But even if the free registry of foreign-built ships were a method by which we

\*From the New York Independent of January 2.

can restore a shipping to the seas under our flag—what then? Would it be wise for us to go abroad for our ships? I think it would be most unwise, economically, and dangerous nationally. We must have shipyards and shipbuilders of our own, to be independent upon the sea. Discussing this subject over a hundred years ago, with a keenness of perception only equaled by his lucidity of expression, Thomas Jefferson, in a famous report to Congress while Secretary of State, said, after pointing out some of the evils of dependence upon other nations for our ships:

"The loss of seamen unnoticed would be followed by other losses in a long train. If we have no seamen, our ships will be useless, consequently our ship timber, iron and hemp; our shipbuilding will be at an end; ship carpenters will go over to other nations; our young men will have no call to the sea; our products, carried in foreign bottoms, be saddled with war freight and insurance in time of war—and the history of the last hundred years shows that the nation which is our carrier has three years of war for every four years of peace. \* \* \* It is easier, as well as better, to stop this train at its entrance than when it shall have ruined or banished whole classes of useful and industrious citizens."

Again, in the same report, Jefferson said further:

"If particular nations grasp at undue shares of our commerce, and, more especially, if they seize on the means of the United States to convert them into alimant for their own strength, and withdraw them entirely from the support of those to whom they belong, defensive and protective measures become necessary on the part of the nation whose marine resources are thus invaded; or it will be disarmed of its defense, its productions will be at the mercy of the nation which has possessed itself exclusively of the means of carrying them, and its politics may be influenced by those who command its commerce."

To be sure, many of Jefferson's followers have drifted away from his teachings in this respect. Had he been asked in 1793 to predict a condition that would exist in 1900 and the consequences of it he would not have had to change a word in the paragraphs I have quoted.

I presume it will be said that our shipyards were never so busy as at present. But, as the commissioner of navigation's last report shows, only one ship, and of less than 2000 tons register, was built in the United States last year for our foreign trade. The tonnage now under our flag engaged in the foreign trade and that owned by our citizens under foreign flags is incapable of carrying to exceed 12 per cent. of our entire foreign commerce, a total of about 1,200,000 tons at the outside. When we consider that the carrying of our imports and exports employs fully 5,000,000 tons of shipping, it will be seen how far American ships are from being able to take care of our vast foreign commerce.

If it be said that ships can be built in the United States as cheaply as they are built abroad, because we export shipbuilding materials and other manufactured products, the case is not proven. In the manufacture of steel and other materials our people have been protected until they are able to compete with foreigners in many lines. The demand at home has led to a production exceeding our own demands. But this is not so as to ships. The reverse is true—foreign ships do nearly all of our carrying. But none of the foreign lines have their ships built here, as we may be sure they would do, at least occasionally, if they could be

built here as cheaply as they can be built abroad. The proof required in support of the assertion that we can build ships as cheaply in this country as they can be built abroad is entirely lacking. The mere assertion itself amounts to nothing; it is the proof that counts, and the proof is not forthcoming. It is asserted, and I believe, that it costs 25 per cent. more to build ships in the United States than it does to build them abroad. Our shipowners testify that they pay this difference, besides which our shipbuilders substantiate this testimony—fully. And this explains why ships are not being built in this country for the foreign trade. Some people go so far as to assert that although ships can be built here as cheaply as they can be built abroad, our builders will not build them. But if that were true foreign shipbuilders would soon install and equip plants for the building of ships in the United States; instead of having our plates exported to them, they would erect plants in this country for the construction of ships, and if they built them any cheaper than our own people do, the foreigners would soon build all the ships and our own shipbuilders would go out of business. Neither the capital nor the skill required for shipbuilding is tied down to any locality or nation. Indeed, we may be sure they will easily be persuaded to go where the building can be most cheaply done. When ships can be built as cheaply in the United States as they can be built abroad we shall be building them. Our people will not deny themselves a share in the profits arising from the annual construction of the 2,000,000 tons of merchant shipping required to keep pace with the demands of the world's commerce.

I confess I had not intended to go so fully into the question of free ships. But I have no apologies to offer for doing so. Free ships is the only alternative proposition offered to protected ships, and if I have pointed out clearly what to me appear to be the weaknesses of the free-ship argument, and the practical inapplicability of that proposition to our present maritime needs, I shall, perhaps, have placed the reader in a better frame of mind to fairly consider the merits of the other plan—the plan of government compensation as a means for building up our shipping in the foreign trade.

From the point of view of those of the school of economics with whom I agree, what do we see? We see that our shipping in the foreign trade has been operated during the last thirty-five years almost wholly under free-trade conditions. Our ships, with the exception of those receiving compensation for carrying the mails—and these include practically every steamship under the American flag in the foreign trade—have received no protection whatever in competition with foreign ships in the carrying of our imports and exports. Our ships, moreover, have had no advantage under our laws in their competition with foreign ships in our foreign trade. It has been, so far as the carrying of our foreign commerce is concerned, a case of perfect free trade for thirty-five years. Now, here was a chance for a demonstration of the efficacy of the free-trade policy applied to American industries, if there were any efficiency in it. The actual result is that we have a shipping that is just about one-half what it was thirty-five years ago, and a commerce just about four times as large as we then had. Our shipping has not declined for the lack of merchandise to carry. I believe it has declined because of the free-trade conditions to which it was subjected.

To say that because our laws confine our registry to our home-built ships that our shipping has been protected off the

sea is to entirely beg the question. The shipowners of the United States have never objected to that provision of the law—a provision 108 years old. Even with the ships in their possession, the fact has been that their operation has proved unprofitable. Even when American ships have changed hands and been sold to other Americans at merely nominal prices, the newcomers, not handicapped with a high price for the ship, have found it, generally speaking, unprofitable to compete with foreign ships in our foreign trade. So I reiterate, it is the free-trade competition that has ruined our ships in the foreign trade. The very few ships that have succeeded under our flag in the foreign trade have, if the records are examined, spent fully one-half their time in the coastwise trade of the United States, from which foreign ships have been excluded for more than eighty years. So look at it as we may, the free-trade conditions of competition have driven our ships from the seas.

Forced, then, as we find ourselves, to extend some form of protection to our ships upon the sea, the question is, What form shall it take? Here it is but fair to say the subject has been studied for the last four years with the utmost care and thoroughness. The old policy of discriminating duties and tonnage dues has been considered and rejected as impracticable because of the many treaties it would require the abrogation of, and the retaliation that would probably in large measure destroy our markets in Europe for our agricultural products. Export bounties have been also considered, and the same treaties operate to make this plan impracticable; and, besides, it is not thought, even were the treaties abrogated and the policy undertaken, that our producers would in any way benefit by that plan. Subsidies for mail steamships and bounties for cargo ships seemed then to offer the only solution. And that solution has been found, it is believed, in the bill now in the Senate, which eliminates the worst feature from the subsidy policy—that of selecting a single line on a certain route as the sole beneficiary of the measure—and extends the compensation to the ships of any American citizen on any route to a foreign country. The plan of the bill is based upon a recognition of the fact that it costs more to build ships in the United States than it does to build them abroad, and that if American capital is to be attracted into such ships the United States, which will be the chief beneficiary of the investment, must make it safe and reasonably profitable. For the same reason it has been decided that, even with the first cost of the vessel provided for, there yet remains the extra cost of operation under the American flag as compared with the cost under other flags. Here, too, it became necessary for the government, which was to be benefited by the restoration of our ships to the sea, to make good that difference of cost. And finally, as to the faster ships, it was found that they would nearly all come into competition with foreign ships enjoying not only the lower cost of construction and operation, but substantial subsidies from their governments as well. And, in order to induce Americans to invest in such ships under the American flag, it was found necessary for the government to offset that advantage by additional compensation. I believe that the amount of compensation fixed in the bill is only barely sufficient to induce Americans to put their capital into ships. And, moreover, the greatest benefit goes to those ships which are adapted to the carriage of the largest cargoes, and the least, comparatively or proportionately to the different elements of cost, to the fast ships

of the so-called ocean greyhound type. The figures showing the difference in the cost of building and of operating American as compared with foreign ships have been placed before the committees of Congress that have twice favorably reported this bill for passage, and they form the basis of the compensation provided.

It has been said that the greatest amount goes to a few of the fast ships now under our flag. But, while such ships actually receive more in dollars and cents than do cargo ships, they nevertheless receive much less proportionately to the differences in the cost as compared with the foreign ships against which they compete. This I believe to be true. I happen to know, too, that no American citizen has in contemplation the construction of ships of the greyhound type under the terms of this bill, because the compensation provided for that type is insufficient to enable the owners of such ships to run them profitably in the foreign trade. But if that type of ship should prove the most profitable under the bill, then any American citizen or corporation may build as many of such ships as he chooses and receive the same compensation that the other ships receive. There is no favoritism in the bill as to type of ship or as to route of trade; each is open to all American citizens with American ships.

Provision is also made in the bill referred to for the admission to American registry of such foreign-built ships as were owned by American citizens, or such ships as were under construction abroad for our citizens on February 1, 1899, a date that would protect those then owning or then contracting for foreign-built ships, and which was, approximately, about the date of the introduction of the bill. The object of this departure from the custom and the law of denying our registry to foreign-built ships was this: For reasons already pointed out it had become unprofitable for Americans to run ships under the flag of the United States in the foreign trade. The necessities of their business, however, had compelled a few Americans to invest in ships in the foreign trade, and in order to compete successfully with their rivals under foreign flags they purchased foreign-built ships and ran them under foreign flags. It was deemed advisable, in the preparation of a bill that would inaugurate what it is hoped will prove to be an enduring and prosperous American maritime policy, to make it attractive to these American citizens now owning ships under foreign flags to hereafter purchase such ships as their business requires from American shipbuilders. Besides, it was deemed inadvisable to subject American citizens who had purchased foreign-built ships in good faith to injury from the competition of American ships in the foreign trade aided by our government. But at no time was it thought advisable to open the doors of the United States to the wholesale admission of foreign-built vessels. So provision was made in the bill only for the admission of such ships as were then actually owned by or building for American citizens under foreign flags, and to give them one-half the amount of compensation paid to American-built ships, on condition that their owners had built in American shipyards new tonnage equal to that so admitted to American register. The total of such tonnage in existence or building it is known does not exceed 350,000 tons gross register, a tonnage equal to the carriage of approximately 4 or 5 per cent. of our foreign commerce. This provision works no hardship upon any American citizen, and it is calculated that it will prove a substantial aid to American shipbuilding. It carefully prevents



the wholesale or general admission of foreign-built vessels to American registry and to a share in the compensation such as is desired by a few that oppose what they are pleased to characterize the "exclusiveness" of this feature. The bill does not incite Americans to go abroad to purchase ships for the foreign commerce of the United States; it merely attracts American capital into American-built ships. And this is strictly in line with what I believe to be the preponderating American sentiment, and the only exception to it, already explained, is justifiable under the circumstances and under the rather rigid conditions imposed.

In conclusion I have but to say this: The testimony submitted to the Senate committee on commerce proves that it costs about 25 per cent. more to build a ship in the United States than it does to build one in Great Britain; that the cost of running a ship under our flag is about 25 per cent. higher than it is under the British flag; that foreign governments financially aid their merchant ships in different ways to an amount exceeding

\$20,000,000 a year, and that these are advantages in favor of foreign-built ships which are sufficient of themselves to deter Americans from investing their capital in American-built ships for our foreign trade. There is no American capital seeking investment at a loss, and if the terms of this bill are so modified as to make uncertain a fair return upon the investment, American capital will go into other channels, while the people of the United States will, as a consequence, suffer from the weakness upon the seas that follows a lack of merchant ships and seamen, and we shall continue to pay out to foreigners each year approximately \$175,000,000 that our own resources and ability would enable us to pay to our own people were they sufficiently protected.

It is on account of these conditions and for the reasons stated that I favor the pending bill, and they are conditions and reasons, I believe, that suffice with a substantial majority in each branch of Congress to induce them to place the measure upon the statutes before adjournment on March 4, 1901.

## COMBINATION FOR COTTON FARMERS.

By Prof. B. Irby of North Carolina College of Agriculture and Mechanic Arts.

In these latter days, when we hear of so much monopoly and trust, we naturally wonder why the public, generally speaking, objects, on the one hand, and why the stockholders, on the other hand, go into these nefarious combinations. I will not attempt to discuss the question or try to decide which is right, but will leave that to wiser heads—the politicians.

I do wish, however, to set forth a scheme that will enable the cotton farmers to share in some combinations that will redound to their profit and result in their material uplifting. I wish to advocate a co-operative plant, consisting of a cottonseed-oil mill and gin, fertilizer plant, farm, and beef-fattening pens, all owned and operated by farmers. If they have the capital, I would also suggest the addition of a cotton mill. The first five mentioned would not take so much capital, and would be in easy reach of many of our best cotton-farming communities. I will go further and say that one such plant could be run successfully in each real cotton county in each of our Southern States.

The good part about the scheme is that the success of the undertaking is not dependent on its proximity to any large town, and I might add that it need not be near a town, but must be on a railroad and in a good cotton section. There is nothing bought or sold in the local town to speak of in the material used. The main buying is done through the country, and, of course, this is from the stockholders and their neighbors. This would be cotton, cottonseed and beef cattle to be fattened. Now, when all of this material is worked up into a finished product it will sell for very much advanced prices, and not on the local market, but wholesale, and on the markets of the world.

Let us imagine such a plant for convenience near a small town and on a railroad. We will represent the plant on a thousand-acre farm lying contiguous to town and bisected by a railroad.

The buildings, of course, are put on the railroad and on the dirt road for convenience. The cattle sheds are located conveniently to the warehouse for using the hulls and meal, and on the railroad for convenience in weighing and shipping.

This whole plant, with all of its branches, can be under one management. One good business man with plenty of common sense, tact and good judgment

can manage the whole thing by selecting a good superintendent for each department, say one each for the cotton mill, the oil mill and the farm; these three, with good foremen, could carry on the business all right.

The superintendent of the cotton mill would be busy the year round. The oil-mill superintendent would be busy in the fall and winter with the oil production and meal, and the rest of the year he could mix fertilizers and assist elsewhere.

The farm superintendent would, of course, be busy the year throughout with his crops in the spring, summer and fall, and in the winter fattening his cattle, numbering say anywhere from one to five thousand. The ginning could be done by a practical man able to help about the farm when the ginney was not running. The labor could be shifted as work and season required. In this way a good force of men could be kept on hand all the time, and with the addition of a few extra men in very busy seasons the work would go smoothly along with the same force.

Raw cotton, cottonseed and beef cattle, phosphoric acid and potash would be the only material bought. Finished cotton products, cottonseed oil, cottonseed meal and fat beef would be sold. All of these purchases would be made from the surrounding country, except the acid phosphate and potash, and these would be bought in carload lots and at wholesale prices.

The sales would be to the world on the cotton goods and oil. The meal, hulls and fertilizer would be sold to the stockholders and country patrons, and when desirable these products could be shipped in carload lots to outsiders. The beef could be shipped in carload lots to the large cities. After a reputation was established in this line buyers would gladly come and purchase the cattle on the side-track, thus avoiding the uncertain prices of shipping. A cold-storage plant could very easily be added, as the oil mill will not run in the spring and summer and early fall, and a refrigerating plant could then be run, and refrigerated beef could be shipped to all nearby towns.

The farm could be divided up into four fields, and these planted in four-year rotation of first year cotton, second year oats, followed by peas, third year corn and peas, fourth year grasses sowed in the fall after the corn has been cut for stover. This

rotation, of course, could be varied to suit the climate, soil and location.

The idea is simply this—the company of farmers would buy only raw material, mostly from themselves, and sell finished products altogether. Of course, it is well known that whoever sells the finished material is the one that makes the money.

Not only would the factory part of the business pay, but the farm would soon double or triple in production. The oil mill would certainly pay them, as they would buy their own seed and sell meal and hulls to themselves. They would make the profit of the fertilizer manufacturers, as they would do their own mixing and sell fertilizer to themselves. Thus the profits of all middlemen and drummers would be eliminated.

The more cotton they made the more they would have to sell at finished prices, and the more meal and hulls they would have to use as feed. They could fatten that much more beef and have that much more manure to use on the farm, in addition to the sales of beef. More forage crops could be grown, and the land could be more thoroughly renovated.

With the exception of the cotton mill, the capital invested would largely be used at different seasons of the year; in fact, but little capital would be needed after the plant was once started, as they would be buying and selling their own stuff, and that bought of outsiders would largely be exchanged for meal, hulls and fertilizer. Their cotton, of course, could be turned into the factory at market prices if needed, and if not, could be sold on the market.

With such a plant as this in every county the farmers would be independent as far as their fertilizers, meal, hulls and cotton goods were concerned. They could sell all of their cotton, cottonseed and beef at the best prices. Then again, such a model farm as this in each county would be a great inspiration to them. The rotation suggested would build up the farm, as so many renovators are used. Cotton is the only crop that would require much hand work; the rest could be cultivated and handled with improved machinery.

This system would call for a small number of good hands on the farm the year round. This is far better than being rushed in the spring and fall with a large number of indifferent laborers, and then the rest of the year having them idle. The land-owner must and will have to support his laborers the year round one way or another, and he might as well go at it in a sensible, business-like way.

Of course, other stock could and should be grown on this farm besides beef cattle, such as hogs, sheep and poultry. A dairy could be run to good advantage, as the operatives could use up all of the products from any ordinary dairy.

Mares could be kept for breeding and light work, thus raising all the mules needed on the farm and around the factories.

All the books could be kept in one central office, and not so much money would have to be paid, as debits and credits from one department to another could be made, and the same could be done with the wages and debts of the employees.

The number of employees would also justify the running of a commissary. This feature would, of course, add to the profit side. Any way it is looked at this system will be seen to be profitable to the farmers and make them practically independent in a good many of their sales and purchases.

Now, if one man or a corporation would take hold of it they could also make it profitable and could manage it with ease, as none of these interests conflict with each other. In some respects one man or

a small company would be more desirable than the large number that would necessarily be in a co-operative concern. The benefit of co-operation would just about balance the advantage of unity that a small number would have.

Of course, in this short article only the salient points can be noticed, as there are hundreds of details connected with each department that could be mentioned. The more the scheme is studied the more plausible and feasible it appears. Let our sensible farmers of each county of every cotton section quit complaining of trusts, combinations and politics and put their shoulders to the wheel and organize such a co-operative plant and help themselves, as that is the best way, after all, to get help.

Surely in a good cotton community 100 farmers could club together and raise \$50,000. This amount would buy the farm and put up the buildings and then leave enough to run the business.

If the farmers will not take hold and help themselves, it is to be hoped that in each section that can support such a plant some wealthy man will take the matter in hand and organize just such an industry.

### THE VALUE OF STREAM GAUGINGS.

Suggestions as to the Manner of Applying This Data for the Determination of Power.

It has fallen to my lot on several occasions recently to review the reports upon the prospective power available from certain streams in the South, and I have noted that a number of these had been prepared with no reference to the gauging of these streams by the United States government. Either those preparing these reports did not know of the existence of this data, or were unaware of its great utility.

These daily records have now been taken through a period covering the phenomenally dry seasons of 1897, and for the first time in the South we have certain reliable data upon which to base our estimates of power. With such data available the charge should no longer be heard that "an engineer's estimate of prospective power is well understood to be only a wild guess." Formerly it was a guess, with greater or less error, as the engineer possessed judgment and experience. His only basis of estimate was the knowledge of what some other stream had been doing within a limited period, or a vague comparison with some power on the same stream. And when it is remembered that the variation of only a few inches in level at times of extreme low water may affect the quantity of water passing 100 per cent., it will be seen how misleading may be a single gauge or float measurement, even when reinforced by the assurance of casual observers that "the river is as low as it ever gets."

Upon a single-float measurement of a shallow stream, with some statement from the oldest inhabitant, backed by such judgment as the investigating engineer might possess, an estimate of prospective power has frequently been rendered, a mill built, machinery installed, and the first dry season has shown conclusively that the engineer's estimate had been only a wild guess. Then has followed raising the dam for storage, which has rarely realized expectations, and after many shut-downs comes the inevitable steam auxiliary and regret on the part of the owners that hydraulic development had ever been attempted. The erection of a cotton mill and the installation of expensive machinery is too serious an enterprise to rest wholly upon mere judgment as to the probable power which the



stream will afford, particularly when it is possible to determine this power with mathematical accuracy. An engineer may be ever so honest, but the desire to realize the expectations of those who are seeking a good power and the thought of prospective construction is certain to bias his judgment where the estimate rests solely upon judgment and not upon absolute data.

Gaugings are now taken daily by the United States geological survey under direction of Mr. F. H. Newell, chief hydrographer, on nearly all the milling streams of the South, so that it is possible for anyone contemplating hydraulic development there to determine with accuracy the power which might have been realized from any specific fall of water on any day or through any season covered by these gauge records. It is likewise possible to determine what ratio of power will be required from a steam auxiliary with any proposed hydraulic installation. Or again, given the ratio of steam which the proposed power plant will be justified in using, then the size of the total plant is readily determined and its consumption of water and coal for each day in the years of record.

The evident lack of acquaintance on the part of many with this data prompts me to call attention to its value, and incidentally to the manner in which I have found it may be most conveniently applied.

By way of illustration, I will take the falls on Deep river, in North Carolina, known as "Lockville," including "Gorgas." This is selected because it has been so thoroughly exploited in the past several years by various reports, notably that of State Geologist J. A. Holmes, that it is hardly possible I can state any essential fact regarding it which is not already well known. It was this power which one of the reports already mentioned rated as "certainly 10,000 horse-power, and probably more." Also in reports of Professor Kerr, former State geologist, it was rated at 6000 horse. The more recently published report of Professor Holmes does not differ essentially from the figures herewith given by me.

The government gaugings on the Deep river at Lockville (Moncure Station) for the year 1899 are as follows (see Bulletin United States Geological Survey, Water Supply and Irrigation Papers, Nos. 36 and 39):

Day.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1.	2.05	4.58	6.91	7.12	2.99	2.84	1.52	4.54	.85	.83	12.74	2.77
2.	3.21	5.90	6.25	4.70	2.85	2.61	1.36	4.26	.79	.78	5.86	1.85
3.	3.41	6.78	6.39	4.52	2.56	3.45	1.34	3.46	.75	.88	4.23	1.83
4.	3.27	7.06	13.25	5.16	2.51	3.13	1.18	3.08	.91	.79	3.48	2.19
5.	2.79	16.40	14.43	8.64	2.29	2.49	4.20	1.46	.73	.87	3.04	2.15
6.	2.47	20.48	15.77	6.18	2.35	1.95	2.42	1.20	.71	7.20	2.74	1.49
7.	10.27	23.21	15.67	6.40	2.47	1.65	2.72	4.54	.89	6.49	2.24	1.27
8.	9.13	25.92	13.62	17.76	8.85	1.49	2.11	4.11	1.19	6.70	1.91	1.19
9.	7.71	20.90	10.61	15.04	6.05	1.53	2.19	4.15	1.10	7.11	1.86	1.11
10.	5.59	18.70	7.29	8.28	4.43	2.55	2.10	1.39	1.82	3.96	.84	1.09
11.	4.59	12.26	5.65	6.16	3.85	3.23	1.79	1.29	2.10	3.19	.89	1.43
12.	5.83	7.19	4.41	5.40	5.89	4.72	1.67	1.41	2.55	1.97	1.69	5.86
13.	6.07	6.98	4.67	4.86	7.99	3.78	1.34	1.25	2.04	1.72	1.02	4.69
14.	9.79	6.06	3.91	4.48	9.23	3.40	1.19	1.21	4.86	1.59	1.09	3.39
15.	13.07	5.10	21.19	3.76	5.99	2.56	1.09	1.29	1.96	1.31	.96	2.35
16.	8.61	6.76	22.51	3.98	4.46	2.42	1.28	1.31	1.04	1.17	.98	1.29
17.	7.91	16.20	16.21	4.10	3.97	2.40	.96	1.17	.93	1.27	1.08	1.34
18.	6.93	21.26	9.99	4.04	3.75	1.68	1.14	1.09	.84	1.04	1.26	1.47
19.	5.99	19.31	14.69	3.54	3.69	1.58	1.11	1.25	.87	1.06	1.14	1.39
20.	4.73	15.30	15.31	3.32	3.05	1.49	1.02	.88	1.71	1.12	1.02	.63
21.	3.15	9.92	9.02	3.46	2.89	1.50	1.02	.74	1.99	.97	.98	1.27
22.	3.36	9.05	7.15	2.97	2.67	1.47	1.02	.78	1.49	.90	1.10	1.13
23.	3.08	8.22	5.87	3.10	3.25	1.77	1.19	.90	1.17	.87	1.05	1.07
24.	3.17	7.92	5.43	2.96	2.85	1.37	1.11	.95	.87	.85	1.04	1.19
25.	3.25	6.24	4.91	2.97	2.75	1.55	1.52	1.06	2.34	.91	1.00	1.13
26.	3.27	6.92	4.41	5.69	2.51	1.57	1.67	.84	1.53	.92	1.32	1.11
27.	3.54	12.94	4.14	5.54	2.25	1.71	5.19	1.00	1.35	1.01	1.92	1.07
28.	3.19	18.22	7.07	4.46	2.02	2.15	4.35	.96	1.09	.98	1.83	.95
29.	2.55	.....	11.65	3.50	1.91	1.68	3.77	1.20	1.17	.94	3.78	1.03
30.	2.21	.....	10.31	3.04	2.54	1.60	2.11	1.22	1.04	.89	2.84	.97
31.	3.23	.....	8.44	.....	2.96	.....	6.28	.89	.....	1.13	.....	1.03

The government data available is the gauge record at Moncure Station, showing the stage of water on each day of the year, and the rating table, showing the quantity of passing water indicated at each graduation of the gauge rod (Bulletin United States Geological Survey, Water Supply and Irrigation Papers, Nos. 36 and 39). This data may be most conveniently applied by developing a table as follows:

In the first column arrange in order all graduations of the gauge rod from the lowest to the highest. Then in successive columns write for each of these—(a) the number of times it was read in the year, (b) its value in second feet, (c) effective head, (d) horse-power gross, (e) number of days on which power would have been lessened by low water and by high water each. By way of illustration: Gauge rod 1.6 on 17 days, being 380 second feet; effective head, 46.4; horse-power, gross, 2004, lessened on 121 days by deficient water and on 227 days by high water in tailrace.

If all similar gauge readings at Lockville, Moncure Station, be assembled from the records of the year 1899 (see Bulletin United States Geological Survey, Water Supply and Irrigation Papers, Nos. 36 and 39), and the variation of effective head be noted, we have the following table:

Gauge rod.	Number days read in year.	Gauging table in second feet.	Effective head.	Horse-power, gross.	Number of days in year on which power indicated would have been affected by—	Low Water.	High Water.
0.6	1	210	47.4	1,128	0	364	
0.8	27	220	47.2	1,232	0	337	
1.0	48	250	47.0	1,335	28	289	
1.2	27	280	46.8	1,544	76	262	
1.4	18	330	46.6	1,724	103	244	
1.6	17	380	46.4	1,995	121	227	
1.8	9	440	46.2	2,269	138	218	
2.0	13	500	46.0	2,539	147	205	
2.2	8	560	45.8	2,839	160	197	
2.4	9	630	45.6	3,192	168	188	
2.6	9	715	45.4	3,600	177	179	
2.8	10	805	45.2	4,050	186	169	
3.0	10	900	45.0	4,500	196	159	
3.2	11	1,070	44.8	5,379	206	148	
3.4	13	1,240	44.6	6,154	217	135	
3.6	3	1,410	44.4	6,926	230	132	
3.8	7	1,580	44.2	7,735	233	125	
4.0	8	1,750	44.0	8,536	240	117	
4.2	3	1,940	43.8	9,417	248	114	
4.4	7	2,130	43.6	10,289	251	107	
4.6	8	2,320	43.4	11,094	258	99	
4.8	3	2,510	43.2	11,937	266	96	
5.0	9	2,700	43.0	12,900	269	87	
5.2	6	3,175	42.5	14,960	278	81	
5.4	12	3,650	42.0	16,900	284	69	
5.6	6	4,125	41.5	19,000	296	63	
5.8	13	4,600	41.0	20,500	302	50	
6.0	1	5,100	40.5	22,523	315	49	
6.2	5	5,600	40.0	24,880	316	44	
6.4	3	6,100	39.5	26,741	321	41	
6.6	4	6,600	39.0	28,587	324	37	
6.8	2	7,100	38.5	30,338	328	35	
7.0	5	7,600	38.0	32,072	330	30	
7.2	1	8,000	37.0	33,335	335	29	
7.4	2	8,600	36.0	35,286	336	27	
7.6	4	9,000	35.0	36,935	338	23	
7.8	3	9,600	34.0	38,792	342	20	
8.0	11	10,000	33.0	40,300	345	9	
8.2	7	10,800	32.0	42,900	356	2	
8.4	2	11,600	31.0	45,500	363	0	

An inspection of this table shows with mathematical certainty to what extent any power which might have been installed here would have been affected in this one year (1899). It shows the number of days on which the power would have been diminished by high and low

water, respectively, and the exact amount of such diminution.

For instance: The power would have varied from 1128 horse-power gross at extreme low water to 65,500 horse-power gross at extreme high water. There would have been but one day on which 1232 horse-power gross could not have been realized. There would have been about 200 days on which 5000 horse-power gross could not have been realized. There

would have been 250 days on which 10,000 horse-power gross could not have been realized.

All of the above figures are for continuous power, day and night. Should it be desired to concentrate flow into day service by night storage, which is practicable here, the installation for power would be doubled. For instance: 10,000 horse-power gross would have been realized on 100 days and fallen short on 200.

It should be noted that the preceding figures are based upon a head of forty-seven feet (normal), with which head little inconvenience would be indicated from high water, the maximum flood for the year having been about twenty-five feet, and only on nine days did the tail water rise above fifteen feet and on thirty days above ten feet. But the physical conditions indicate a development in two separate heads, which would be affected by flood water in somewhat greater degree. Just to what degree is readily perceived from the table, so that it is possible to determine the capacity of wheels for any required installation, having accurate knowledge of the seasons of shortened head and partial gate.

Should steam auxiliary be desired, this table affords the data necessary to determine the exact proportion of steam-power. For example: Let it be required to install a plant of 3600 horse-power for night and day service, what proportion of steam will be required in one year?

Days.	Water.	Steam.	Total.
1	1128 H. P.	2472 H. P.	3600 H. P.
27	1232 "	2268 "	3500 "
48	1335 "	2265 "	3600 "
27	1544 "	2056 "	3600 "
18	1724 "	1876 "	3600 "
17	1995 "	1605 "	3600 "
9	2269 "	1340 "	3600 "
13	2539 "	1070 "	3600 "
8	2839 "	761 "	3600 "
9	3192 "	408 "	3600 "
9	3600 "	0 "	3600 "

Total horse-power days (3600x365)..... 1,314,000  
Total steam horse-power days..... 325,743  
Being 25 per cent. of steam, nearly.  
Partial steam required on 177 days for the year 1899.

For the sake of conciseness, the factors of wheel efficiency and partial gate are not considered in the above estimate. A fair rating of this power would be 1500 horse-power continuous, or 3000 horse-power day flow only—such rating, expecting thirty days' deficiency by reason of dry season and thirty days when head would be shortened ten feet or more by flood water in tailrace. And this is the power which that report, made without reference to systematic gaugings, rated at "certainly 10,000 horse-power, and probably more." But this is a most excellent power within the limits of its capacity. The engineer who made this report has done much good work. His error lay in assuming that the Piedmont streams were of the same efficiency as the mountain streams. Had the government report of stream gaugings been before him, he would have noted that efficiency varies widely on the Carolina streams. A little computation upon this government data shows that whereas we may expect one horse-power per foot of fall from twelve square miles on the Broad river through ordinary seasons, it will require sixty square miles to furnish the same power on the Neuse river, forty-five on Cape Fear and Tar, Deep and Haw, thirty on Roanoke, twenty on Yadkin, fifteen on Lower Catawba and twelve on Upper Catawba and French Broad. These specific areas may vary according to the requirements of each development, but the ratios are nearly constant.

Therefore, if the Deep river had the same efficiency as the Broad or Upper Catawba, the 10,000 horse-power might have been realized. These relative efficiencies could only have been determined by means of accurate daily measurements, such as the United States geolog-

ical survey is conducting, and these were evidently unknown to the engineers who made this overlarge estimate.

It may not be amiss to indicate briefly the manner in which these gaugings are taken and records made available.

A rod, graduated to feet, is fixed permanently above the stream to be gauged in such way that the relative rise and fall of water may be accurately read thereon. A paid observer notes daily the level of the stream as shown on this rod and reports the figures to the Washington office.

From time to time the quantity of water passing is determined by a current meter, which indicates the velocity of the stream in feet per second, and by a simple process the total quantity of water passing. Several such gaugings taken at different stages of water are sufficient to develop a curve whereon each reading of the vertical graduated rod is graphically shown its equivalent in second feet of passing water.

This is the "rating table" for that particular gauge rod, and enables the daily rod readings at any time to be quickly translated into cubic feet of passing water. These records of gauge height and rating table are printed each year and issued to members of Congress for distribution, or they may be obtained by direct application to the office of the United States geological survey.

As the number of stations on any one stream is necessarily limited, it becomes desirable to apply the data to other points on the same stream. This may be done by determining the relative drainage areas. It should be noted, however, that the efficiency of a stream increases as the headwaters are approached. The Yadkin in the dry season of 1897 had nearly 33½ per cent. greater efficiency at Salisbury than at Norwood. The Catawba had nearly 20 per cent. greater efficiency at Catawba Station, near Hickory, N. C., than at Rock Hill, S. C. The Neuse river has the lowest efficiency of any stream in North Carolina, lying wholly in the eastern section of the State, where the geological formation is not conducive to perennial springs. In the dry season above referred to the run-off from the Neuse at Selma was only 15 per cent. of the Broad river at Gaffney on basis of same drainage area, the one stream lying wholly in the mountains, the other wholly out. In the year 1897 the maximum flood of the Neuse was 105 times its minimum flow, while the maximum flood of the Broad was only twenty-four times its minimum. These two streams are excellent illustrations of the effect of physical conditions on the efficiency of streams. And the physical conditions are almost invariably such as to give greater efficiency as the headwaters of any stream are approached.

The knowledge of the greatest flood which a stream may pass is most essential in the construction of hydraulic work. Experience has shown that the failure of dams may in nearly every case be attributed to want of sufficient foreknowledge of the flood they were ultimately required to discharge. And in this respect also streams are most dissimilar. For instance: The maximum flood of the Roanoke in 1897 (gauge twenty-eight feet at Neals) was about seven second feet per square mile. The Tar river in the same year gave six feet, Neuse seven, Cape Fear eight, Yadkin ten, Broad thirteen, while the Catawba developed a fearful flood of twenty-six second feet to the square mile.

The greatest flood ever recorded at Fayetteville, on the Cape Fear, the gauge reaching fifty-eight feet above low water, was only thirteen second feet per square



mile, or one-half that of the Catawba in 1897.

It may be of sufficient interest to note that the French Broad is the finest milling stream in the South, having an efficiency of one horse-power per foot fall from twelve square miles and a flood volume of only nine times the minimum flow. At the other extreme is the Black Warrior of Alabama, with a flood volume more than 1000 times the minimum flow and efficiency of one horse-power to about 400 square miles of area.

Should this brief paper serve in any measure to call attention to the value of this work of the United States geological survey it will not have been in vain. It is much to be hoped that this gauging system may be extended until it embraces every mill stream in the South, and that the records may be continued through such period as will determine all their varying characteristics and the natural laws governing these.

JOHN W. HAYS.

### IN THE BIRMINGHAM DISTRICT.

#### Activity in the Various Iron and Steel Industries.

[Special Cor. Manufacturers' Record.]

Birmingham, Ala., January 8.

The market the past week was a steady one, but the volume of business was only moderate. As it was, it exceeded the usual run of holiday business. The attention of all the interests has been centered in the clearing up of old business and preparing for the active trade that all anticipate. While you hear a great deal said about this anticipated activity in the iron trade, there is very little said about an advance in prices. A steady demand is what is desired. The market has been steady around \$11.25 for No. 2 foundry. An intimation has been given that there were a few sales at \$11, but as this grade is scarce, the sales, if any, were immaterial. The market is steady and inclined to firmness.

All the agents of the various interests in buying markets have notified them to be prepared for an active trade, commencing this month.

The Republic Iron & Steel Co. has blown out its No. 1 furnace, which is to undergo a thorough overhauling and come out a 200-ton producer. This company is now getting a daily output of coal from the mines at Warner of 1200 tons and from the Sheridan mines of 1000 tons.

The steel mill continues to receive more business than it can accommodate, and every week orders are declined that it would otherwise willingly register. The business in steel is increasing so rapidly that it begins to look as if the great mill when it has all its battery of ten furnaces in operation will still be behind on orders. The situation as it is and the prospects for a continuance of the business as developed are being closely investigated by capitalists, and the prospects for another steel mill are growing brighter all the time. The bar and rod mill continue to run double turn and is frequently behind on orders.

The business in steel castings inaugurated by the Tennessee Company has rapidly increased, and the capacity is frequently taxed. Very little has been said of late concerning the rail mill. There was nothing that could be said of it further than to note its progress in erection, and all that can be said of it now is that it is being pushed as rapidly as possible, and before the coming summer it will be turning out steel rails. The practical part in the development of the district taken by the Tennessee Company has given it the impetus that has brought it to the renown it enjoys.

A visit to the various shops shows that they are all full of business now and in good spirits over the prospects ahead of them. Most of them confine their efforts to the local and domestic trade, but enterprise is getting a foothold, and some of them are making overtures to our neighboring professions for business with encouraging success.

The Birmingham Boiler Works has lately completed a large stack for the Barker Cotton Mills at Mobile, and are erecting a similar one for the Winona (Miss.) Cotton Mills. At the Sheffield furnaces they have just put up two large furnace stoves, and at McComb City, Miss., cooling towers for their cotton mills, as well as cooling towers for the mill at Sycamore, Ala. This is but an illustration of how the business is expanding. Hardie-Tynes Company is full of orders, and the Means-Fulton Company reports that it has all it can do. As an example of the development and progress of the more delicate and difficult construction of machinery it can be stated that the Birmingham Machine & Foundry Co. has just completed a powerful blowing engine for a furnace interest.

J. M. K.

### IN PROGRESSIVE MONTEREY.

#### Evidences of Industrial Activity in Mexico.

[Special Cor. Manufacturers' Record.]

Monterey, N. L., Mexico, Dec. 29.

A number of our prominent capitalists recently organized the Compania Ladrillera Union, or, in plain English, the Union Brick Co., with a paid-up cash capital of \$120,000, for the manufacture of brick. The plant is situated a short distance east of the city, and it will be ready to fire up in a short time. The capacity of the plant will be 2,250,000 bricks per month. They will connect the plant with a tramway with the Monterey & Mexican Gulf, the Mexican National, the Mexican International and the Monterey Mineral railroads. They are getting their machinery from the American Clay Working Machine Co. of Bucyrus, Ohio.

A company has been organized to erect a sugar refinery at Linares, which is situated ninety-one miles east of this city on the line of the Monterey & Mexican Gulf Railroad. Linares is the largest sugar-producing district in the State of Nuevo Leon. There are over thirty small sugar mills in the district for grinding the cane and converting the juice into piloncillos.

There has been considerable stir among the four railroads entering this city the past month. The National Railroad people have a large force of men at work in their yards in this city putting in new sidings and putting the finishing touches on the new freighthouse. That building will be practically completed by the 31st of December. They have already commenced to store freight in it.

The Monterey & Mexican Gulf Railroad people are making extensive improvements at their shops in this city. During the past two months they have been receiving new machinery and construction material, and they will, as soon as this is put in place, commence the construction of passenger coaches, box and flat cars.

It has been reported in railroad circles that as soon as Mr. Hays, the new president of the Southern Pacific Railroad, makes a tour of inspection over the Mexican International system he will order the work renewed on the main line from Durango to the Pacific, and that they will build a branch road from either the Trevino or the Jaral station, on the main line, into Saltillo, so as to supply that city and the Coahuila & Pacific and the Zacatecas & Concepcion del Oro with coal and coke.

These two roads are now depending on the Mexican National Railroad for coal and coke. As the Mexican International Railroad Co. own the coal mines on the line of their road, they can supply that city and roads with both coal and coke for much less than the National road is now supplying it.

Soon after the holidays the Monterey Steel Co. of this city will commence to build their branch roads from the National road to their iron and coal fields in the State of Coahuila.

The little Monterey & Mineral Railroad is doing a rushing business. Of late they have increased their rolling stock, so as to be able to haul the output of the Diente mines to the smelters.

The miners and mines are the kings of the country. The mines are the greatest source of revenue to the republic. They produce more wealth than all the other industries of the country. The Federal, State, municipalities and the railroads receive immense revenues from them. They have made more men rich in the past ten years than any other industry in the country.

Monterey is fortunate in being situated in the midst of the richest mining district in the republic. It is surrounded with more mines, and has the most and largest smelters of any other city in Mexico. All its moneyed men are interested in mines in this and adjoining States.

Mr. George Bisham and Prof. J. M. Moran came in from Villadama the forepart of the week. They are developing some good paying mines in the Villadama district. Mr. W. H. Mealy, who is interested in mines in the States of Coahuila, Durango, Zacatecas and Chihuahua, came in to spend Christmas with friends. He reports that they are increasing their output of silver, lead and copper ores. Regarding the purchase of the Voladora mine Senor Carlos Michaud, the general manager of the Torreon Smelting Co., gave out the following: "Since the organization of our company we have been looking for good lead properties, and we decided on the La Voladora as the very best of its kind to be found. The property belonged to Messrs. Leedom & Schneider, to whom we paid \$200,000 for their mine, and expect to spend \$100,000 more on the development of the property. The first new work contemplated will be the erection of a cable connecting the mine with the railway station. This cable will be over two miles in length, and will enable us to ship at least 200 tons of ore per day. This property was examined for us by Mr. John S. Whyte, our chief engineer, who reported 30,000 tons of fine lead ore in sight. Our loading station will be the terminus from the mine on the line of the Monterey & Mexican Gulf Railroad, fifteen miles northwest of Monterey. Construction work there is progressing just as rapidly as possible. Besides the plan proper, we are pushing forward the erection of suitable quarters for all officers and employes of the company, so that they will be comfortably settled by the time the plant begins operation on the first of September next. The plant was originally planned to smelt 300 tons of ore per day, but we decided since then to increase its capacity to 1000 tons, and we will treat 500 tons per day from the start. Our Mr. Newton R. Wilson is now in New York purchasing the necessary supplies, etc., where he will remain for some time longer."

EDMOND LEVAN.

The sales in the Joplin (Mo.) district in the week ended January 5 amounted to 8,509,600 pounds of zinc ore and 977,160 pounds of lead ore, valued in all at \$126,866.

### PROGRESS OF CHARLESTON.

#### Industrial and Commercial Importance of West Virginia's Capital.

[Special Cor. Manufacturers' Record.]

Charleston, W. Va., January 5.

Among the cities of the middle South which are now moving rapidly to the front in the industrial and commercial worlds, none is more conspicuous than Charleston, W. Va., the capital of the Mountain State. Nor is the rise of this little city in the nature of a boom. It has been and is solid, steady and substantial, the culminating attainment of over a century of industry and perseverance.

It is now something over a decade more than a century since George Clendennin, the founder of Charleston, and his associates purchased a tract of land, most of which is within the present city limits, and laid out forty lots. The next year, 1789, the village was made the capital of the county of Kanawha, and in 1794, by an act of the legislature of Virginia, it was incorporated under the name it now bears.

For the next three-quarters of a century the growth of the village was slow, though it gradually became more and more important as a trading center. But as soon as the completion of the Chesapeake & Ohio Railroad opened up the Kanawha mining belt the rise of Charleston was assured. In 1870 the population of the town was 3000. According to the returns of the last census, its population is 12,000. As the most important place in Kanawha county, it is really the center of a population of over 54,000 in one county alone, while a half-dozen adjacent counties look to it as a distributing and business center.

Charleston is situated on the north bank of the Great Kanawha river, at its confluence with the Elk. The latter stream waters fifty miles of the richest timber lands in the United States. Its hygienic and climatic conditions are most admirable.

Like most cities and towns, Charleston suffered from the financial and industrial panics of 1893 and in years succeeding in proportion to her previous prosperity. But the clouds that had darkened the financial skies have broken, and the sun of prosperity is shining with its old-time brilliancy. On all sides are heard reports of concerns which were "shut down" having started up again, and of others adding very materially to their working forces; of new enterprises under way, of merchants replenishing depleted stocks, and of an enlargement generally in the volume of trade which indicates a general feeling of confidence. Nowhere does the business outlook appear brighter.

It is but a few months since Charleston took a great step in advance by the incorporation, under the laws of West Virginia, of the Charleston Chamber of Commerce, composing which are a number of the most representative business and financial men of the city. Its officers are: President, Charles Capito; vice-president, Charles K. Payne; secretary, Charles Loeb; treasurer, John L. Dickinson; board of directors, W. S. Lewis, F. N. Staunton, R. G. Hubbard, E. A. Barnes and Philip Frankenberger.

President Capito is the proprietor of one of the oldest wholesale establishments in Charleston, a director in the Kanawha National Bank and a promoter in various enterprises. Vice-President Payne is the senior member of the Payne Shoe Co., the largest concern of the kind in Southern West Virginia. Secretary Loeb is the manager of the Loeb Shoe Co., an extensive retail concern, and was for six years a member of the city council, during four of which he served as chairman of the



committee on finance. Treasurer Dickinson is cashier of the Kanawha Valley Bank, the oldest banking institution in Charleston, in which he is also a director. This bank was founded in 1867, its president being John Q. Dickinson, father of the cashier. It reports a capital of \$150,000, undivided profits of \$185,000, and deposits aggregating nearly \$900,000.

Messrs. Barnes and Frankenberger are directors in the Charleston National Bank, the second oldest banking institution in the city, founded in 1884, and reporting deposits of about \$1,000,000. As already stated, President Capito is a director in the Kanawha National Bank, another thriving institution, while the membership of the Chamber of Commerce includes a fourth bank, the Citizens' National, the youngest—at by no means the least extensive in the city.

In addition to these four banking institutions, the membership of the organization includes twenty-seven business and industrial concerns, among which are a wholesale clothing establishment, two wholesale liquor establishments, two wholesale hardware concerns, a wholesale produce company, two wholesale dry-goods concerns, the most extensive wholesale grocery establishment in Southern West Virginia, a wholesale shoe concern, a wholesale stove and tinware establishment, a wholesale queensware concern, the Tanners' and Dyers' Extract Factory, manufacturers and extensive exporters of dyes, and a number of big retail firms and individual capitalists.

The following extract from the application for a charter indicates the purposes of the Charleston Chamber of Commerce:

"The undersigned agree to become a corporation by the name of the 'Charleston Chamber of Commerce' for the purpose of the collection and preservation of statistical information connected with the commercial and manufacturing interests of the city of Charleston; promoting just and equitable principles in trade, establishing uniformity in the commercial usages of said city; settling differences speedily and without litigation, and promoting the general progress and prosperity of the community, and for that purpose desire authority to purchase, hold, lease, sell and convey real property to the value of two thousand five hundred dollars."

Under the administration of these enterprising citizens the success of the organization is a foregone conclusion.

The progress of West Virginia in wealth, population and influence is a subject of national importance. It ranks among the greatest States of the American Union, and gains in relative greatness year by year. It is alive to the value of utilizing natural advantages, agricultural as well as mineral, and there is no State which possesses better facilities for engaging in local manufacturing on a large scale. Certainly there is no State more rich in resources, and where a healthful and hopeful regard to variety and industrial development is so strongly marked, though the years of this State are as yet but few.

Conditions point to the continued pre-eminence of Charleston, the capital, among the live and beautiful cities of West Virginia, and every step taken in its progress is interesting, in view of the splendid prospects that lie before it.

In 1899 some of the business concerns in Charleston did 150 per cent. more business than in the year before, many showing a gain of 75 per cent., and very few less than 35 per cent.

Some further reference to the natural advantages of Charleston will be of interest. On all sides of the city are scattered collieries from which are sent forth some

of the finest coals mined in the United States. Two railroads, the Chesapeake & Ohio and the Kanawha & Michigan, afford for it an outlet, while the Great Kanawha river, with its wonderful system of locks and dams, affords an additional and cheap outlet available now all the year round. The timber wealth of the Elk valley has already been alluded to. There are similar stretches on Coal river, which is only a few miles from Charleston, and along other streams in the vicinity.

More than this, Charleston is the center of a natural gas field which is just opening up, and which offers great attractions to manufacturing industries seeking new locations. There are evidences, too, of oil, and many oil men are of the opinion that Charleston lies in the great oil belt that is now opening up in this State.

Reference has been made to the railroad facilities of Charleston. In addition to the two railroads alluded to, there is a third, the Charleston, Clendennin & Sutton, which, when completed, at no distant date, will bring Charleston into close communication with Pittsburg and make it the business center of all portions of West Virginia south of the Little Kanawha river.

The expansion of the interests of Charleston represents that wholesome expression of progress which diffuses happiness among all sorts and conditions of people, and is materially augmenting her population with excellent citizens and their families. The interest which every good citizen must feel accompany his acquaintance with the operations of the Charleston Chamber of Commerce.

**The Nicaraguan Canal.** By W. E. Simmons. Publishers, Harper Bros., New York and London. Price \$1.25.

In this volume is given in pleasing and easy-flowing style an account of the country bordering upon the great waterway to be constructed by the United States, its people, their customs, government and natural surroundings, with a history of the canal from the origin of the plan to connect the American Mediterranean with the Pacific, the full facts about the work already completed, the surveys by the United States government and the task yet to be accomplished before the plan has been completed. The author has made a thorough study of all conditions bearing upon his subject, and the reading of the book will bring much light to bear upon the project which now seems nearing completion. The work is fully illustrated with maps and with reproductions of photographs of scenery and the people.

Col. S. W. Vance in his annual report on the phosphate industry of South Carolina presents the following figures relative to the operations for the year 1900: Total tons of phosphate rock mined, 121,225 tons, against 122,073 tons for 1899; rock on hand January 1, 1900, 18,539 tons, and rock on hand December 31, 1900, 67,697 tons; rock shipped during the year ending December 31, 1900, 72,209 tons, against 134,094 tons in 1899; foreign shipments in 1900, 39,435 tons, and domestic shipments, 32,774; amount of royalty due the State for the fiscal year ending December 31, 1900, \$21,565.47, against \$34,928.69 on the same date in 1899.

The first cargo of Virginia coal on account of the contract made with the Russian government was loaded at Portsmouth, Va., last week.

State Geologist Yeates of Georgia is collecting specimens of marbles and fine clays of the State for exhibition at the Buffalo Exposition.

## RAILROADS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

### MURPHY ELECTRIC SYSTEM.

Installed and Tested on the Baltimore & Ohio Belt Line.

The work of equipping the Baltimore & Ohio Belt Railroad in Baltimore and suburbs with the sectional and third-rail electric systems, which has been in progress for several months, has been completed, and an official test will take place on January 15, which will be witnessed by a number of prominent electrical experts, transportation officials and others from this country and abroad. A preliminary test of the system was recently made under the supervision of Mr. John McLeod Murphy, the inventor of the sectional system, by Mr. W. D. Young, electrical engineer of the Baltimore & Ohio, which was witnessed by a representative of the Manufacturers' Record and a number of railroad men and electricians. One of the electric locomotives which have been used on the Belt Line has been fitted with the apparatus for taking current from the charged rail, and was run over a portion of the track, making switches and being operated on the straight track without any apparent difficulty. Several of the experts who were present expressed the opinion that the results were eminently satisfactory.

The system employed is similar to that which has been in use upon what is known as the Manhattan Beach Railroad for some time past. Here motor cars are operated in all kinds of weather without difficulty. The Manhattan road, however, carries only passengers, and but a comparatively weak current is required to furnish the necessary power. On the Baltimore & Ohio Belt Line the electric locomotives alone weigh ninety-six tons each, and the traction difficulties, as they might be termed, are very great. It is claimed that owing to the curves and grades between South Baltimore and the Northern suburbs on the Belt Railroad it is impossible for the most powerful steam locomotive to haul a train of thirty-six loaded cars. In providing the new system it must be capable of supplying the motor with as strong a current as has been transmitted by the overhead system at present in use. As readers of the Manufacturers' Record are aware, the current is taken by means of a flexible connection between the top of the motor and a metal shoe which slides in a trough.

The Murphy system, which is installed for a distance of three and one-half miles, is operated as follows: The motorman opening the controller of the electric locomotive to the first notch automatically communicates with the tank carried as a storage reservoir for compressed air, which operates the brakes. This compressed-air tank transmits the power to the air engines, which in turn operate an electric generator, furnishing sufficient current to pick up a switch, which in turn charges the third rail with current from the power-house. As soon as this current passes from the switch by way of the third rail and the shoe to the electric generator which lifts the switch the latter immediately and automatically becomes a motor, which, through the substitution of two valves in the air engine, also becomes a compressor and charges the air tanks from which it originally obtained its motive power.

At no time during the operation of the car over this system is it possible to have a charged conductor or third rail except when the motorman has opened the controller. Hence, should a person even fall

beneath a car and the motorman quickly throw the controller to a closed position there would be no danger from injury by electricity. There is no possibility of the third rail in front or rear of the car, while the car is in motion, becoming charged.

The company controlling the patents is known as the Murphy Safety Third Rail Electric Co. The officers of the company are as follows: Matthias Plum, president; Charles T. Hayman, first vice-president; George H. Carey, second vice-president; William M. Keepers, third vice-president; Alexander Beach, treasurer and assistant secretary; Lincoln Ingels, general manager and secretary; John McLeod Murphy, chief engineer; E. J. Smith, David F. Halstead and John B. Renwick. John J. Toukin is consulting engineer. It is understood that if the result of the official tests on the Baltimore & Ohio are successful several large contracts will be secured in and around New York, while negotiations are pending to use the system abroad.

### A Guide to Industry.

Prospective investors and manufacturers who desire to form an accurate opinion of the advantages offered in location along the line of the Norfolk & Western Railway system can find no better guide than the practical publication just issued by the general freight department under the title "Northern & Western Railway Industrial, Shippers' and Buyers' Official Guide." The editor of the book, Mr. Walter H. Henderson of New York, has grouped his interesting matter in attractive shape, so that while it guides seekers of information about the opportunities along the road, it at the same time describes fully the progress of industries already established. Among its features are a list of the flour mills on the system in Maryland, Virginia, West Virginia and Ohio north and west of Roanoke, shippers of flour, feed, grain and hay on the whole system, an interesting chapter on the part played by the company in the economic history of the South, a chapter on coal and coke containing succinct facts about the operations of the many companies operating in that line, with several pages devoted to iron and other ores, a chapter on the timber resources and the lumber plants, one on agriculture and one descriptive of the cities and towns along the line, with their typical industries. The volume is profusely illustrated, and is full of facts of interest not only to the special investigator, but to the general reader.

### Southern Railroads Prosperous.

In a recent interview relative to the general conditions in the South Mr. John M. Egan, president of the Central of Georgia Railway Co., expressed himself as follows:

"The entire South has been prosperous during the year, and no better thermometer than railroads for taking the temperature of the business of a section can be found. Let the country be prosperous and the railroads will show the prosperity clearly. Their receipts will run up in good times and will run down when times are hard, just as the mercury in a thermometer fluctuates with warm and cold weather. The 'weather' to the railroads has been warm, and they have marked a high degree of prosperity.

"Earnings on the Central of Georgia, estimated up to the present, have shown an increase almost invariably for each week over the corresponding week of last year. But two weeks of the entire year have shown a falling off. The difference was but slight during one week in January, so slight, in fact, that it is scarcely worth noticing. Then there was a differ-



ence of some \$6000 the third week in November, but there was nothing about that to feel any particular regret over, for the deficit itself served to show that the South is in a prosperous condition. The falling off was due directly to a drop in the price of cotton. Now the farmers were not going to sell when their product had just taken a tumble. Had they not been in good circumstances they would have been compelled to sell. They were determined, however, to wait for another advance, so they held on to their cotton. Naturally the movement of the product by rail fell off, and the earnings for the week were less.

"Not only have freight earnings shown an increase, but the same has been true of the passenger earnings. Both departments have done well. When people have money they are ready to spend it for their own travels as well as for the movement of freight.

"All sections have served to show this increase. Prosperity has not been confined to any special territory. Just as good money has been made in one part of the South as in another, and there is the advantage now of having all sections upon practically an equality. Upon only two or three stretches of our system has there been a more marked increase in earnings than on others, branches as well as main lines having served to reflect the conditions of the country and add to the receipts."

#### The Brunswick & Birmingham.

The work of grading the Brunswick & Birmingham Railroad has begun on the section in the vicinity of Brunswick, Ga. The beginning of the construction was made the occasion for elaborate ceremonies, at which the city officials and prominent business men of Brunswick were present. As already stated in the Manufacturers' Record, the road is being promoted by a company of which E. C. Machen of New York is president. It is stated that right of way is rapidly being secured, and that a number of towns on the route have agreed to aid the undertaking by stock subscriptions or the issuing of bonds. Glynn county, Georgia, through which the road will pass, has decided to give the services of its convict force for grading within its limits. The city of Brunswick has offered the railroad company buildings which will be used for the necessary machine shops.

#### Another Louisiana Line.

Mr. R. A. Long, president of the Long-Bell Lumber Co. of Kansas City, Mo., is interested in an important railroad project in Louisiana. In a letter to the Manufacturers' Record he states that the Woodworth & Louisiana Central Railway Co. has been incorporated, and has begun work upon the line, which is to extend from Lamorie, on the Texas & Pacific, eventually to the Kansas City Southern system, a distance of about fifty miles. The first section will terminate at a connection with the Kansas City, Watkins & Gulf Railroad. Others interested in the project are W. S. Smith of Kansas City, Edward Rand and John Steuart of Woodworth, La.

#### An Important Project.

The Little Rock Southern Railroad Co., recently incorporated in Arkansas, includes a number of the owners of the New Orleans & Northwestern Railroad, which is in operation between Natchez, Miss., and Bastrop, La., a distance of ninety-eight miles. The Little Rock Southern is to be built from Bastrop to Little Rock, forming a continuous route from Natchez to Little Rock, a distance of about 230 miles. The New Orleans &

Northwestern is largely owned by the Hyde Syndicate of Titusville, Pa. Louis K. Hyde is general manager, and F. L. Hyde of Titusville, vice-president. They are among the incorporators of the Little Rock Southern.

#### Ballasting the Seaboard.

In a letter to the Manufacturers' Record Mr. E. St. John confirms the report that the roadbed of the Seaboard Air Line is to be improved its entire length from Richmond to Tampa, Fla. It is understood that the principal improvement will be the ballasting of the roadbed to a depth of at least twenty-four inches with crushed stone. This will give the Seaboard Air Line the same depth of ballast as the Pennsylvania Railroad and other large Northern systems. Mr. St. John states that nothing definite has been determined as to the time when the work will be commenced.

#### In Good Condition.

The West Virginia Central & Pittsburgh Railway Co. has organized a railway department and a coal department on account of the large business it does from the mines which it owns in West Virginia and Maryland. According to the last annual statement, the gross earnings of the railway amounted to \$1,117,000, an increase of nearly \$200,000 over the previous year. The net earnings amounted to \$407,000 and the surplus \$151,000. The company's success in its coal trade is shown by the fact that the net profits from this business amounted to \$350,000.

#### Chicago to Florida.

The Southern Railway Co. and its connecting lines will place in operation on January 14 a train between Chicago and winter resorts in the South which is to be called the "Chicago and Florida Special." All of the rolling stock has been built specially for the train, which is considered to be one of the finest ever offered for the accommodation of passengers in this country. It will be operated every week day, leaving Chicago at noon and reaching Jacksonville at 7:30 the next evening. The average rate of speed will be forty miles an hour.

#### Richmond to Petersburg.

A dispatch from Richmond, Va., states that grading has already begun upon the electric railroad between Richmond and Petersburg, Va., for which a contract has been given to the Cleveland Construction Co. of Akron, Ohio. J. L. Haner of Cleveland, Ohio, is a director of the company, while William Christy, president of several electric lines being operated in Ohio, is at the head.

#### To Complete the Terminals.

According to a dispatch from Galveston, Texas, Mr. Charles M. Hays, president of the Southern Pacific Company, announces that all of the plans prepared for terminals of the company at this port and partially completed at the time of the storm will be carried out as originally intended, and that the work will be finished as soon as possible.

#### New Mississippi Line.

According to a dispatch from Birmingham, Ala., Messrs. C. D. Smith & Co. of that city have secured a contract to build thirty miles of railroad in Mississippi, which will be a portion of the Illinois Central system when completed. It will extend through a part of Panola county, and will be a branch of the Yazoo & Mississippi Valley division.

#### Railroad Notes.

A company is being formed at Chattanooga, Tenn., with the view of operating an additional steamboat service between Chattanooga, St. Louis and other cities.

The Louisville & Nashville Railroad Co. has let a contract for the construction of a freight depot at Mobile to cost about \$50,000. It is to be completed by April 1.

Recent orders for rolling stock include one for 200 freight cars from the St. Louis Southwestern Railway Co., which has been given to the American Car & Foundry Co. of St. Louis.

It is officially announced that Mr. E. St. John has resigned his position as vice-president and general manager of the Seaboard Air Line. No successor has been appointed as yet to fill the vacancy.

Mark Moses of Georgetown, S. C., who recently purchased several steamboats operating upon South Carolina rivers, has become interested in a proposed boat line between Wilmington, N. C., Georgetown and Charleston.

A dispatch from Philadelphia is to the effect that the Trades League of that city is making arrangements to establish a regular line of steamships between Philadelphia and New Orleans. It is stated that enough business is offering for such a service.

#### \$150,000 Cement Works.

Experienced manufacturers are continually becoming acquainted with the South's many natural advantages in their respective branches, and this frequently leads to the establishment of Southern plants of large capital. The latest instance of this is the \$150,000 Portland cement works announced for construction at Rosville, Ga., near Chattanooga, Tenn. The parties have incorporated the Chickamauga Cement Co. to build and operate the plant, its daily capacity to be 500 barrels of cement, employing not less than 100 men. Uriah Cummings of Stamford, Conn., is president; Homer S. Cummings, mayor of Stamford, secretary, and W. P. D. Moross of Chattanooga, Tenn., treasurer and general manager. It was through the efforts of Mr. Moross that the enterprise has been secured. The machinery has been ordered, and contracts for buildings will be placed immediately. Fifty acres of land outcropping with cement rock have been purchased for site.

#### The Birmingham District.

In a recent speech at Birmingham Col. L. W. Johns, who has been an active worker in that district for several years, grouped a number of facts illustrating the great natural restoration of that region. He said that its coal area was greater than that of Great Britain, and estimated the Warrior coal field at 7800 square miles in extent, the Cahaba coal field at 400 square miles, and the Coosa field at 150 square miles, the three fields containing 110,000,000,000 tons of coal. He calculated that the output of iron and coal in the district represented a daily income of \$370,000, and said: "This is exclusive of the sale of cotton. We are sending ore to Tennessee, sending pig-iron to culture of Boston, to the granite hills of New Hampshire, to the Pacific coast, to frigid Maine and to torrid Mexico. Show me any other country where cotton and corn grow on top of coal and iron except this."

The work of deepening the ship channel leading to the harbor at Gulfport, Miss., has been commenced. The improvement is being made by the Gulf & Ship Island Railroad Co.

## FOREIGN TRADE.

This department is designed to set forth opportunities for the extension of the trade abroad of American manufacturers, and to record facts about the rapidly-developing commerce of the South.

#### Business at Iloilo.

In a letter to the Manufacturers' Record Mr. H. C. Watts of Iloilo, Philippine Islands, writes as follows:

"Business is right good along all lines, and especially shipping. Boat-owners have made big money since the American occupation, and they will continue to do so, for trade will increase steadily as affairs become still more settled. In our district sugar lands would be an excellent investment at present, though they could not be acquired at figures below their worth. I do think they will be worth more money shortly, however, as their value is measured and their dividend-paying qualities become better known to investors. If I can procure some money at a fair rate a little later on I think I shall enter that field myself."

#### Cotton for Manchester.

From the present indications the shipment of cotton from Southern ports direct to Manchester, England, by way of the Manchester ship canal will be much greater during the coming year than during any previous year. A regular service has been established between Manchester and New York, Savannah, Charleston, New Orleans and Galveston. According to a dispatch from Manchester, fourteen vessels recently cleared for that city from Egyptian and American ports with 90,000 bales of cotton.

#### Launchings at Newport News.

Arrangements are being made to launch three steamships at the Newport News yard within a few weeks. They include the Siberia and Korea for the Pacific Mail Steamship Co. and one of the four vessels for the Morgan Line to run between New York and New Orleans.

#### Coal for Nova Scotia.

The Merchants' Coal Co. of Baltimore has secured the contract to supply 20,000 tons of Maryland coal for a railroad line in Nova Scotia. The fuel will be shipped from Baltimore by sea as soon as the necessary vessels can be chartered to carry it.

#### Notes.

Mr. E. E. Prevost has been appointed general Southern passenger agent of the International Navigation Co., which controls the American line of steamships. Mr. Prevost will have his offices at New Orleans.

In December 130 vessels loaded with cargoes for foreign lands sailed from New Orleans. Among the latest arrivals at the port is the Indian of the Leyland-West Indian Line, which will load 28,000 bales of cotton and other cargo.

Mr. C. S. Christensen of Christiania writes to the Manufacturers' Record that he is interested in obtaining information about American metal and woodworking machinery, engines and boilers, turbines and water-wheels, all kinds of tools, belting, hose and packing, mining machinery and railroad material.

A dispatch from Norfolk, Va., announces that the steamship Fenimore, which recently cleared for Port Arthur, in Asia, carries a cargo of coal which forms a portion of a contract made between West Virginia coal operators and the Russian government. The fuel will be used on Russian warships.



## TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the Manufacturers' Record. We shall be glad to have such matter at all times, and also to have any general discussion relating to cotton matters.

### To Develop Water-Power.

R. A. Schofield, treasurer the River-side Cotton Mills of Danville, Va., in a letter to the Manufacturers' Record, says: "This company owns about 1200 acres of land, with a valuable water-power, about four miles above our present plant and water-power in Danville, and it is our purpose during this year to build a dam across Dan river for the purpose of putting this power in shape to be utilized as may be decided upon later, probably by constructing an electric plant and transmitting the power to this city, but as to this we have not fully decided. It is not our intention for the present to build additional cotton mills. We fear that the construction of textile mills in the South during the last year or two has been too rapid, and, in our opinion, it is better to await developments than to build additional cotton mills under present conditions. We wish to develop the power above mentioned, putting it in available condition either for our own use for such purposes as may be presented from time to time, or to furnish it for the use of other enterprises that may be interested to come here, or those of our town that may need the power for manufacturing or other purposes. Our present mills use about 2500 horse-power under normal conditions of the river. We think the power on the new site above Danville may be improved to make it more effective than the water-power in Danville."

### Cotton Facts of 1900.

Col. A. B. Shepperson, the American cotton expert, has just published the edition of December, 1900, of his "Cotton Facts," a standard statistical compendium for cotton growers, cotton sellers and cotton manufacturers. It is the latest reliable publication in the field, continuing all the statistics of previous issues and bringing some of the figures down to December 21 last. Among the special features of the volume are a general review of the season of 1899-1900, and the prospects for 1900-1901; articles on the progress of cotton manufacturing in Europe, the United States and India since 1890; on the need of improvements in the pressing and baling of cotton; on the progress of cotton manufacturers in Japan and China; on the Mexican cotton-bell weevil, and on the production of cotton, and detailed statements of American cotton brought into sight and the quantity taken by the world's spinners each month since 1893, and of the exports of cotton manufactures from the United States and Great Britain for a period of years, and a variety of other valuable information familiar to persons who have for many years kept "Cotton Facts" at their elbow.

### The Cotton Movement.

During the first four months of the present season, according to the report of Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, the amount of cotton brought into sight was 6,697,887 bales, an increase of 690,449; the exports were 3,181,937 bales, an increase of 613,502, this increase being

principally in English takings; the takings by Northern spinners were 1,135,500 bales, a decrease of 300,630 bales; by Southern spinners 600,123 bales, a decrease of 17,507 bales. In the 126 days ended January 4 the amount of cotton brought into sight was 6,719,236 bales, an increase of 659,433. The exports were 3,298,671, an increase of 601,102; takings by Northern spinners 1,167,374 bales, a decrease of 329,061 bales; by Southern spinners 618,339 bales, a decrease of 17,507 bales.

### \$150,000 Woolen Kersey Mill.

Articles of incorporation have been filed by the Powhatan Woolen Co., with capital stock of \$150,000, by Messrs. George W. Albough and Nicholas W. Steele of Westminster, Md.; David Lowenstein, Thomas R. Bowling and Abraham L. Rosenaur of Baltimore, Md. Their purpose is to manufacture cotton and woolen goods, confining their operations at first to woolen kersies. The plant will be located at Powhatan, Md. It is expected to be in operation in ninety days. Three hundred operatives will be employed, and the monthly pay-roll will be about \$7500. An extensive woolen mill was located at Powhatan some years ago, but fire destroyed it four years ago. The new company will utilize some of the old mill's buildings. Nicholas W. Steele will be general manager.

### \$100,000 Mill for Talladega, Ala.

The Chinnabee Cotton Mills of Talladega, Ala., mentioned recently as having charter from the legislature, has formally organized. The directors are Messrs. Cecil Browne, T. S. Plowman, L. H. Clardy, F. C. McAlpine, J. E. Michael, J. A. Powe and E. T. Haynes. Mr. Plowman is president. The company will build at once a plant of 5000 spindles for the manufacture of yarns, and the full equipment, including steam-power plant, will be wanted. The capital stock is \$100,000.

### Textile Notes.

The Franklin (Ky.) Woolen Mills Co. has nearly completed its \$12,500 worth of improvements to its plant.

Wiley T. Browne of Sabine Pass, Texas, contemplates establishing a knitting mill at Knoxville, Tenn.

Isidor Mayer will organize a stock company to put in operation the Clinton (La.) Cotton Mills, which he purchased recently.

Messrs. A. Hood, D. B. Teabeant and A. P. Moye and associates are organizing a \$100,000 cotton-mill company at Cuthbert, Ga.

The Norris Cotton Mills of Easley, S. C., has increased capital stock from \$150,000 to \$200,000 and awarded contract for an enlargement.

A company has been organized to build a cotton factory at Eastman, Ga. M. H. Edwards is president; Sol Herrman, vice-president, and C. H. Peacock, secretary-treasurer.

The Danville (Va.) Knitting Mills has moved into its new building. Ten new knitting machines, 25-horse-power engine and other additional equipment is being installed.

The Pee Dee Knitting Mills of Dillon, S. C., has been granted commission for charter, the incorporators being Messrs. J. P. Ewing, C. S. Herring and A. B. Jordan. The capital stock is \$10,000.

Messrs. R. F. Ligon, Jr., J. H. Faunce and Arthur Jones of Montgomery, Ala., have incorporated the National Air Moistening Co., with capital stock of \$5000. The company's purpose is to manufacture

air-moistening and ventilating apparatus for textile mills and other industries.

R. E. Morrell is interested in the proposed organization of a \$100,000 company for the erection of a 5000-spindle cotton mill at Charlotte, N. C. Long-staple cotton is to be used, probably Sea Island crop.

Messrs. William H. Rowe & Son, lately announced as to locate the \$300,000 yarn and knitting mill at Huntsville, Ala., are of the Wayside Knitting Co. at Troy, N. Y., and of other companies in New York State.

Messrs. Johnston & Dickson have secured a renewal of lease on the plant of the Norfolk (Va.) Knitting & Cotton Manufacturing Co. They contemplate improving facilities and installing machinery to nearly double present output.

The New Iberia (La.) Cotton Milling Co. has decided to build an extensive knitting mill, so designed that the \$125,000 cotton factory originally planned can be added to operate in unison with the knitting plant. Contracts will be awarded for buildings at once. The details have not yet been announced.

### QUOTATIONS OF COTTON YARNS.

By Buckingham & Paulson, New York, Philadelphia and Chicago, January 8.

No. 10s-1 and 12s-1 warps.....	14 1/2 @ 15
No. 14s-1 warps.....	15 1/2 @ 16
No. 16s-1 warps.....	16 1/2 @ 17
No. 20s-1 warps.....	17 1/2 @ 18
No. 22s-1 warps.....	18 1/2 @ 19
No. 24s-1 warps.....	19 1/2 @ 20
No. 26s-1 warps.....	20 1/2 @ 21
No. 28s-1 warps.....	21 1/2 @ 22
No. 30s-1 warps.....	22 1/2 @ 23
No. 32s-1 warps.....	23 1/2 @ 24
No. 34s-1 warps.....	24 1/2 @ 25
No. 36s-1 warps.....	25 1/2 @ 26
No. 38s-1 warps.....	26 1/2 @ 27
No. 40s-1 warps.....	27 1/2 @ 28
No. 42s-1 warps.....	28 1/2 @ 29
No. 44s-1 warps.....	29 1/2 @ 30
No. 46s-1 warps.....	30 1/2 @ 31
No. 48s-1 warps.....	31 1/2 @ 32
No. 50s-1 warps.....	32 1/2 @ 33
No. 52s-1 warps.....	33 1/2 @ 34
No. 54s-1 warps.....	34 1/2 @ 35
No. 56s-1 warps.....	35 1/2 @ 36
No. 58s-1 warps.....	36 1/2 @ 37
No. 60s-1 warps.....	37 1/2 @ 38
No. 62s-1 warps.....	38 1/2 @ 39
No. 64s-1 warps.....	39 1/2 @ 40
No. 66s-1 warps.....	40 1/2 @ 41
No. 68s-1 warps.....	41 1/2 @ 42
No. 70s-1 warps.....	42 1/2 @ 43
No. 72s-1 warps.....	43 1/2 @ 44
No. 74s-1 warps.....	44 1/2 @ 45
No. 76s-1 warps.....	45 1/2 @ 46
No. 78s-1 warps.....	46 1/2 @ 47
No. 80s-1 warps.....	47 1/2 @ 48
No. 82s-1 warps.....	48 1/2 @ 49
No. 84s-1 warps.....	49 1/2 @ 50
No. 86s-1 warps.....	50 1/2 @ 51
No. 88s-1 warps.....	51 1/2 @ 52
No. 90s-1 warps.....	52 1/2 @ 53
No. 92s-1 warps.....	53 1/2 @ 54
No. 94s-1 warps.....	54 1/2 @ 55
No. 96s-1 warps.....	55 1/2 @ 56
No. 98s-1 warps.....	56 1/2 @ 57
No. 100s-1 warps.....	57 1/2 @ 58
No. 102s-1 warps.....	58 1/2 @ 59
No. 104s-1 warps.....	59 1/2 @ 60
No. 106s-1 warps.....	60 1/2 @ 61
No. 108s-1 warps.....	61 1/2 @ 62
No. 110s-1 warps.....	62 1/2 @ 63
No. 112s-1 warps.....	63 1/2 @ 64
No. 114s-1 warps.....	64 1/2 @ 65
No. 116s-1 warps.....	65 1/2 @ 66
No. 118s-1 warps.....	66 1/2 @ 67
No. 120s-1 warps.....	67 1/2 @ 68
No. 122s-1 warps.....	68 1/2 @ 69
No. 124s-1 warps.....	69 1/2 @ 70
No. 126s-1 warps.....	70 1/2 @ 71
No. 128s-1 warps.....	71 1/2 @ 72
No. 130s-1 warps.....	72 1/2 @ 73
No. 132s-1 warps.....	73 1/2 @ 74
No. 134s-1 warps.....	74 1/2 @ 75
No. 136s-1 warps.....	75 1/2 @ 76
No. 138s-1 warps.....	76 1/2 @ 77
No. 140s-1 warps.....	77 1/2 @ 78
No. 142s-1 warps.....	78 1/2 @ 79
No. 144s-1 warps.....	79 1/2 @ 80
No. 146s-1 warps.....	80 1/2 @ 81
No. 148s-1 warps.....	81 1/2 @ 82
No. 150s-1 warps.....	82 1/2 @ 83
No. 152s-1 warps.....	83 1/2 @ 84
No. 154s-1 warps.....	84 1/2 @ 85
No. 156s-1 warps.....	85 1/2 @ 86
No. 158s-1 warps.....	86 1/2 @ 87
No. 160s-1 warps.....	87 1/2 @ 88
No. 162s-1 warps.....	88 1/2 @ 89
No. 164s-1 warps.....	89 1/2 @ 90
No. 166s-1 warps.....	90 1/2 @ 91
No. 168s-1 warps.....	91 1/2 @ 92
No. 170s-1 warps.....	92 1/2 @ 93
No. 172s-1 warps.....	93 1/2 @ 94
No. 174s-1 warps.....	94 1/2 @ 95
No. 176s-1 warps.....	95 1/2 @ 96
No. 178s-1 warps.....	96 1/2 @ 97
No. 180s-1 warps.....	97 1/2 @ 98
No. 182s-1 warps.....	98 1/2 @ 99
No. 184s-1 warps.....	99 1/2 @ 100
No. 186s-1 warps.....	100 1/2 @ 101
No. 188s-1 warps.....	101 1/2 @ 102
No. 190s-1 warps.....	102 1/2 @ 103
No. 192s-1 warps.....	103 1/2 @ 104
No. 194s-1 warps.....	104 1/2 @ 105
No. 196s-1 warps.....	105 1/2 @ 106
No. 198s-1 warps.....	106 1/2 @ 107
No. 200s-1 warps.....	107 1/2 @ 108
No. 202s-1 warps.....	108 1/2 @ 109
No. 204s-1 warps.....	109 1/2 @ 110
No. 206s-1 warps.....	110 1/2 @ 111
No. 208s-1 warps.....	111 1/2 @ 112
No. 210s-1 warps.....	112 1/2 @ 113
No. 212s-1 warps.....	113 1/2 @ 114
No. 214s-1 warps.....	114 1/2 @ 115
No. 216s-1 warps.....	115 1/2 @ 116
No. 218s-1 warps.....	116 1/2 @ 117
No. 220s-1 warps.....	117 1/2 @ 118
No. 222s-1 warps.....	118 1/2 @ 119
No. 224s-1 warps.....	119 1/2 @ 120
No. 226s-1 warps.....	120 1/2 @ 121
No. 228s-1 warps.....	121 1/2 @ 122
No. 230s-1 warps.....	122 1/2 @ 123
No. 232s-1 warps.....	123 1/2 @ 124
No. 234s-1 warps.....	124 1/2 @ 125
No. 236s-1 warps.....	125 1/2 @ 126
No. 238s-1 warps.....	126 1/2 @ 127
No. 240s-1 warps.....	127 1/2 @ 128
No. 242s-1 warps.....	128 1/2 @ 129
No. 244s-1 warps.....	129 1/2 @ 130
No. 246s-1 warps.....	130 1/2 @ 131
No. 248s-1 warps.....	131 1/2 @ 132
No. 250s-1 warps.....	132 1/2 @ 133
No. 252s-1 warps.....	133 1/2 @ 134
No. 254s-1 warps.....	134 1/2 @ 135
No. 256s-1 warps.....	135 1/2 @ 136
No. 258s-1 warps.....	136 1/2 @ 137
No. 260s-1 warps.....	137 1/2 @ 138
No. 262s-1 warps.....	138 1/2 @ 139
No. 264s-1 warps.....	139 1/2 @ 140
No. 266s-1 warps.....	140 1/2 @ 141
No. 268s-1 warps.....	141 1/2 @ 142
No. 270s-1 warps.....	142 1/2 @ 143
No. 272s-1 warps.....	143 1/2 @ 144
No. 274s-1 warps.....	144 1/2 @ 145
No. 276s-1 warps.....	145 1/2 @ 146
No. 278s-1 warps.....	146 1/2 @ 147
No. 280s-1 warps.....	147 1/2 @ 148
No. 282s-1 warps.....	148 1/2 @ 149
No. 284s-1 warps.....	149 1/2 @ 150
No. 286s-1 warps.....	150 1/2 @ 151
No. 288s-1 warps.....	151 1/2 @ 152
No. 290s-1 warps.....	152 1/2 @ 153
No. 292s-1 warps.....	153 1/2 @ 154
No. 294s-1 warps.....	154 1/2 @ 155
No. 296s-1 warps.....	155 1/2 @ 156
No. 298s-1 warps.....	156 1/2 @ 157
No. 300s-1 warps.....	157 1/2 @ 158
No. 302s-1 warps.....	158 1/2 @ 159
No. 304s-1 warps.....	159 1/2 @ 160
No. 306s-1 warps.....	160 1/2 @ 161
No. 308s-1 warps.....	161 1/2 @ 162
No. 310s-1 warps.....	162 1/2 @ 163
No. 312s-1 warps.....	163 1/2 @ 164
No. 314s-1 warps.....	164 1/2 @ 165
No. 316s-1 warps.....	165 1/2 @ 166
No. 318s-1 warps.....	166 1/2 @ 167
No. 320s-1 warps.....	167 1/2 @ 168
No. 322s-1 warps.....	168 1/2 @ 169
No. 324s-1 warps.....	169 1/2 @ 170
No. 326s-1 warps.....	170 1/2 @ 171
No. 328s-1 warps.....	171 1/2 @ 172
No. 330s-1 warps.....	172 1/2 @ 173
No. 332s-1 warps.....	173 1/2 @ 174
No. 334s-1 warps.....	174 1/2 @ 175
No. 336s-1 warps.....	175 1/2 @ 176
No. 338s-1 warps.....	176 1/2 @ 177
No. 340s-1 warps.....	177 1/2 @ 178
No. 342s-1 warps.....	178 1/2 @ 179
No. 344s-1 warps.....	179 1/2 @ 180
No. 346s-1 warps.....	180 1/2 @ 181
No. 348s-1 warps.....	181 1/2 @ 182
No. 350s-1 warps.....	182 1/2 @ 183
No. 352s-1 warps.....	183 1/2 @ 184
No. 354s-1 warps.....	184 1/2 @ 185
No. 356s-1 warps.....	185 1/2 @ 186
No. 358s-1 warps.....	186 1/2 @ 187
No. 360s-1 warps.....	187 1/2 @ 188
No. 362s-1 warps.....	188 1/2 @ 189
No. 364s-1 warps.....	189 1/2 @ 190
No. 366s-1 warps.....	190 1/2 @ 191
No. 368s-1 warps.....	191 1/2 @ 192
No. 370s-1 warps.....	192 1/2 @ 193
No. 372s-1 warps.....	193 1/2 @ 194
No. 374s-1 warps.....	194 1/2 @ 195
No. 376s-1 warps.....	195 1/2 @ 196
No. 378s-1 warps.....	196 1/2 @ 197
No. 380s-1 warps.....	197 1/2 @ 198
No. 382s-1 warps.....	198 1/2 @ 199
No. 384s-1 warps.....	199 1/2 @ 200
No. 386s-1 warps.....	200 1/2 @ 201
No. 388s-1 warps.....	201 1/2 @ 202
No. 390s-1 warps.....	202 1/2 @ 203
No. 392s-1 warps.....	203 1/2 @ 204
No. 394s-1 warps.....	204 1/2 @ 205
No. 396s-1 warps.....	205 1/2 @ 206
No. 398s-1 warps.....	206 1/2 @ 207
No. 400s-1 warps.....	207 1/2 @ 208
No. 402s-1 warps.....	208 1/2 @ 209
No. 404s-1 warps.....	209 1/2 @ 210
No. 406s-1 warps.....	210 1/2 @ 211
No. 408s-1 warps.....	211 1/2 @ 212
No. 410s-1 warps.....	212 1/2 @ 213
No. 412s-1 warps.....	213 1/2 @ 214
No. 414s-1 warps.....	214 1/2 @ 215
No. 416s-1 warps.....	215 1/2 @ 216
No. 418s-1 warps.....	216 1/2 @ 217
No. 420s-1 warps.....	217 1/2 @ 218
No. 422s-1 warps.....	218 1/2 @ 219
No. 424s-1 warps.....	219 1/2 @ 220
No. 426s-1 warps.....	220 1/2 @ 221
No. 428s-1 warps.....	221 1/2 @ 222
No. 430s-1 warps.....	222 1/2 @ 223
No. 432s-1 warps.....	223 1/2 @ 224
No. 434s-1 warps.....	224 1/2 @ 225
No. 436s-1 warps.....	225 1/2 @ 226
No. 438s-1 warps.....	226 1/2 @ 227
No. 440s-1 warps.....	227 1/2 @ 228
No. 442s-1 warps.....	228 1/2 @ 229
No. 444s-1 warps.....	229 1/2 @ 230
No. 446s-1 warps.....	230 1/2 @ 231
No. 448s-1 warps.....	231 1/2 @ 232
No. 450s-1 warps.....	232 1/2 @ 233
No. 452s-1 warps.....	233 1/2 @ 234
No. 454s-1 warps.....	234 1/2 @ 235
No. 456s-1 warps.....	235 1/2 @ 236
No. 458s-1 warps.....	236 1/2 @ 237
No. 460s-1 warps.....	237 1/2 @ 238
No. 462s-1 warps.....	238 1/2 @ 239
No. 464s-1 warps.....	239 1/2 @ 240
No. 466s-1 warps.....	240 1/2 @ 241
No. 468s-1 warps.....	241 1/2 @ 242
No. 470s-1 warps.....	242 1/2 @ 243
No. 472s-1 warps.....	243 1/2 @ 244
No. 474s-1 warps.....	244 1/2 @ 245
No. 476s-1 warps.....	245 1/2 @ 246
No. 478s-1 warps.....	246 1/2 @ 247
No. 480s-1 warps.....	247 1/2 @ 248
No. 482s-1 warps.....	248 1/2 @ 249
No. 484s-1 warps.....	249 1/2 @ 250
No. 486s-1 warps.....	250 1/2 @ 251
No. 488s-1 warps.....	251 1/2 @ 252
No. 490s-1 warps.....	252 1/2 @ 253
No. 492s-1 warps.....	253 1/2 @ 254
No. 494s-1 warps.....	2



**LUMBER.**

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

**LUMBER MARKET REVIEWS.****Baltimore.**

Office Manufacturers' Record,  
Baltimore, Md., January 9.

There has been a better movement in many avenues of the local lumber industry during the past week, and manufacturers and dealers are about ready to enter upon the work of the year, which gives promise of a fair volume of trade. In nearly all lines the tone of values is very steady, while stocks of lumber at all saw-mill sections are lighter than usual at this period of the season. The demand for North Carolina pine is fair, with values firm for all desirable stuff, while in many cases stocks of lumber are badly assorted. During the past week numerous inquiries from the usual sources have come to hand which later on will result in a substantial business. There is some foreign demand for North Carolina pine, but the movement in that direction is light. Georgia pine is in good request, with values steady. In cypress there is a moderate business, with prices unchanged. The hardwood business is improving, with the demand from nearby towns more decided, while values are generally steady. There is very little foreign business being done, hardwood shippers being handicapped by scarcity of tonnage and extreme freight rates. The foreign hardwood market is reported extremely quiet, as usual during the holidays.

**Jacksonville.**

[From our own Correspondent.]  
Jacksonville, Fla., January 7.

The year just closed has developed an unusual activity in all branches of the lumber industry of this port, and the new year opens with every indication of a remarkable demand for wood products. All the mills are now taxed to their utmost capacity in filling orders, and the demand for lumber is as pronounced at the moment as it was during the midsummer of last year, when it was impossible to get tonnage to carry away stock from the mills. The trade of this port, like all Florida ports, shows a material increase in the shipments of wood products, and during the year 1900 the shipments from this port, as shown by the collector of the port, amounted to 119,483,149 feet domestic and 12,539,917 feet foreign, or a total of 132,023,066 feet, against a total of 117,225,935 feet in 1899. The above figures do not include shipments by rail and lumber for local purposes, which, if considered, would probably swell the amount to over 150,000,000 feet. The crosstie industry during the year showed up remarkably well, and, like lumber, is rapidly increasing in the volume of business. The shipments of crossties for the year are estimated at 523,929, being three times as large as in 1899. The demand for cypress lumber during the year has also been of a more decided character, 6,514,040 feet having left the port, against 2,360,000 feet in 1899. The domestic and foreign business in lumber here shows a distribution embracing the Northern and Eastern markets, Cuba, Porto Rico and other West India Islands, besides considerable trade with more distant ports. The character and grades of lumber turned out by Jacksonville mills has long been held in high estimation, and with the present facilities of the various saw-mill plants, both here and at adjacent points, there is every prospect of numerous inquiries from the usual sources during the present year. Stocks at present

are not large, and prices are very steady under the present demand, with every indication of a slight advance in the near future in certain grades.

**Mobile.**

[From our own Correspondent.]  
Mobile, Ala., January 7.

During the past week the lumber and timber market has been quiet and the actual business of the new year not yet fully under way. The timber market continues quiet, with values unchanged for sawn timber at 12 cents per cubic foot, 40-foot basis. Hewn timber is firm at 13½ to 14 cents per cubic foot. The lumber market is generally active throughout, and at all milling sections here and at adjacent points millmen are busy, being well supplied with orders. At the regular meeting of the Gulf Coast Lumbermen's Association, held here on the 2d inst., it was learned that the prospective outlook for spring trade is very good, the South American business improving, and that South African schedules are becoming more plentiful. The shipments of lumber last week were only 146,494 feet, sawn timber 30,312 cubic feet and hewn timber 7421 cubic feet.

**Pensacola.**

[From our own Correspondent.]  
Pensacola, Fla., January 7.

The new year has opened with a most pronounced activity in the general business of the port. The volume of trade reported for the year 1900 shows a remarkable increase over other years, and the outlook for a year of increased activity in 1901 is most encouraging. The month of December was one of the busiest months of the year. During the month twenty steamships of a total tonnage of 34,015 and twenty sail vessels of a total tonnage of 44,831 entered, and eighteen steamships of a total tonnage of 30,329 and eighteen sail vessels of a total tonnage of 12,598 cleared. The business of the year just closed in lumber and timber presents a good record, showing the industry to be in a most satisfactory condition. During the year shipments of lumber amounted to 179,467,000 feet, sawn timber 176,689,000 feet and hewn timber 612,434 cubic feet, making a total of 363,865,208 superficial feet. The situation at the moment in regard to lumber was never more encouraging; prices are generally firm, with the demand from the usual sources most decided. Mills in this section are running at their greatest capacity in order to fill contracts for prompt and near delivery, while stocks are generally light. The timber market is unchanged, and in sawn timber the market is dull, with advices from Europe none too encouraging. It is hoped that as February usually records the opening of the spring trade, the market will show more improvement. While last year's record of the lumber trade has been satisfactory, there is also in various other lines of trade wonderful progress shown. The naval-stores trade, which a decade ago amounted to only ninety barrels of rosin, last year showed shipments of 113,274 barrels of rosin and 841,606 gallons of turpentine. There is considerable interest felt here just now over the new shipyard which is to be built in the near future. The company which is about to establish this new enterprise will have a capital of \$600,000. Mr. George W. Wright of this city is president, and Mr. Dishman, secretary, with several New York capitalists among the board of directors. It is stated that the yard will be located near Perdido wharf, the plant of which will be of the most modern type of equipment. The yard will be arranged for the building of vessels of average capacity. With this and other improve-

ments about to be launched during the year, besides the great increase expected in building, which includes residences, warehouses, etc., the indications point to a prosperous commercial and industrial year in the upbuilding of a most prominent Gulf port. Messrs. Fred O. Howe & Co., in their circular dated January 1, give the tone of the pitch-pine freight market as follows: "Pitch-pine freights continue extremely dull, with scarcely any demand, and the prospects do not appear very favorable for any early improvement, although more activity is hoped for, now the holidays are over. We quote for United Kingdom or Continent, £5 10s. to £5 15s.; for Mediterranean, £5 to £5 5s. For South America, \$14 Buenos Ayres and \$15 Rosario is obtainable. Steam freights are nominally £5 15s., Pixpinus, United Kingdom or Continent, but there is no demand for tonnage even at this figure."

**Beaumont.**

[From our own Correspondent.]  
Beaumont, Texas, January 7.

The conditions surrounding the lumber market in this section are of a most encouraging character, and the volume of trade for this period of the season is large. The number of orders in sight will give the mills all they can do for some time to come, and the demand for lumber from the usual sections is most pronounced. The weather has been somewhat unfavorable for the handling of lumber, but at the moment it is more settled, which gives the mills a better chance for shipping. A record-breaking shipment was made last week, when the Beaumont freight department of the Southern Pacific billed out 170 cars of lumber, which had accumulated as receipts from local mills and from mills on the Sabine & East Texas and Gulf, Beaumont & Kansas City railroads. The movement at Orange is very satisfactory, and the industry in good shape. Mills at Orange loaded 822 cars in December, against 657 in November. The foreign export business through Sabine Pass is showing considerable improvement, the offering of vessels being better and rates somewhat easier. Considerable shipments of timber and lumber will be made this month to South America, Mexico and the United Kingdom and Continent. The entire saw-mill plant of the Yellow Pine Tie & Timber Co. was sold last week to the United Lumber Co. of this city. The mill property is located at Lillard, a small station on the Gulf, Beaumont & Kansas City Railroad, about twenty-three miles north of this city. The sale includes the saw-mill, planing mill, dry-kilns, tramroad and the entire stock of lumber. The Midway Lumber Co. of Midway, La., the principal officers and stockholders of which are Beaumont capitalists, was organized in Lake Charles, La., last week, with a capital stock of \$25,000. The general offices of the company will be at Midway, but a branch office will be established in this city.

**Lumber Notes.**

The Wando Lumber Co. of Charleston, S. C., has increased its capital from \$7900 to \$10,583.

Mr. L. C. Casey has commenced operations on a large lumber plant at Orange, Miss. The plant will have a capacity of 40,000 feet a day.

The Bowman Lumber Co. at St. Albans, W. Va., is now running on full time, working on rush orders and turning out 100,000 feet of lumber every twenty-four hours.

Receipts of lumber at the port of New Orleans for the week ending January 4 amounted to 1,404,000 feet, and for the

season 50,582,621 feet, against 41,173,142 feet at the same date last year.

The Tennessee Lumber & Manufacturing Co. of Johnson City, Tenn., has been chartered, with a capital stock of \$60,000. The incorporators are W. S. W. W., W. L. and Henry Sheaffer and C. J. St. John.

The Midway Lumber Co. of Midway, La., was organized last week at Lake Charles, La., with a capital stock of \$25,000. The principal officers and stockholders are capitalists of Beaumont, Texas.

The Pee Dee Naval Stores Co. of Dillon, S. C., was chartered last week, with a capital stock of \$50,000. The officers of the company are R. P. Hamer, president, and A. F. Woods, secretary and treasurer.

Mr. F. N. Daniels of Cameron, Texas, has purchased the interests of Messrs. A. F. Sharpe, H. B. Rice and J. A. McFarland in the Texas & Louisiana Lumber Co., and has assumed the general management of the business.

After overhauling its machinery the Empire Lumber Co. at Shady, Tenn., is cutting timber at the rate of 75,000 feet a day. The company will not make any shipments until the Beaver Dam Railway is completed from Damascus, Va.

The schooner S. P. Hitchcock cleared at Pascagoula, Miss., on December 29 with 466,000 feet of lumber for the United States navy-yard at Norfolk. The shipment consists of the best yellow-pine lumber, and is one of the most valuable that has ever left the coast.

The Woodstock Hardwood & Spool Manufacturing Co. of Woodstock, Berkeley county, South Carolina, has been chartered, with a capital stock of \$15,000. The officers of the company are W. H. Welch, president, and Julius D. Koster, secretary and treasurer.

The shipments of timber and lumber from the port of Pensacola for the month of December amounted to 23,334,728 feet, and the total shipments for the twelve months ending December 31, 1900, aggregated 363,855,208 feet, against 349,747,388 feet for the year 1899.

A lumber plant is to be established at High Point, N. C. Mr. J. Tate is at the head of the enterprise. Sash, doors, blinds, dressed lumber, etc., will be manufactured. The capital stock of the company is \$40,000. Work will begin in a few days, and by spring the company expects to have some of its goods on the market.

It is stated that there are now six saw-mills in operation at Heathville, in the Northern Neck of Virginia. The demand for lumber is so pronounced that Messrs. Huton & Blunder of Northumberland county are preparing to establish a mill in that section immediately on deep water.

It is stated that T. B. Allen & Co., a manufacturing and exporting firm at Memphis, will shortly commence the erection at Jackson, Miss., of a \$25,000 planing mill and stave factory. The firm has purchased a site on the Gulf & Ship Island Railroad near the city limits, and work will be commenced shortly on the buildings.

The regular monthly meeting of the Gulf Coast Lumbermen's Association was held last week at Mobile, Ala., with Capt. J. W. Black in the chair and W. J. Kilduff as secretary. The session was an executive one, but it was learned that the prospective outlook for spring trade is very good and that the South American business is improving. It was decided to meet every sixty days, the next meeting to be held on the first Wednesday in March.

## PHOSPHATES.

### Phosphate Markets.

Office Manufacturers' Record,  
Baltimore, Md., January 9.

Transactions during the past week in phosphate rock have been light, and the market is generally quiet. The tone, as in all other fertilizer ingredients, is firm. Receipts from all sections for the week have been light. At points of production the reports for 1900 show lighter shipments than for previous years, owing to extreme freight rates and scarcity of vessels. The situation in South Carolina at present shows stocks of rock on hand 67,697 tons, and at the corresponding period last year 18,539 tons, an increase of 49,159 tons. A number of companies have suspended operations until shippers can get better terms as to freight rates, etc. There is a fair domestic demand, with prices steady. In Florida hard-rock miners are working to better advantage, although a number of plants are out of commission, and it is said that out of seventy-three hard-rock plants, thirty-nine are operating and thirty-four are closed down. From the ports the shipments for the year will be lighter than former years, with Fernandina reporting for 1900 173,469 tons, Savannah 123,817 tons and Punta Gorda 54,506 tons, while Port Tampa is credited with about 200,000 tons. In Tennessee the market for rock is firm, with holders expecting prices to advance, as there is more inquiry for export rock. The British steamer Rammoor was chartered last week to load Tennessee rock at Pensacola this month for a continental port, and other large shipments will be made this month.

### Fertilizer Ingredients.

A stronger tone is present throughout the market for ammoniates, and prices show a slight advance in certain cases. The volume of business is light, there being very little demand from Southern sources and only a moderate inquiry from Eastern buyers. In the West stocks are reported light, with holders firm.

The following table represents the prices current at this date:

Sulphate of ammonia (gas).....	\$2.80	6c	2.85
Nitrate of soda, spot (Balt.).....	1.85	6c	1.90
N. York.....	1.82	5c	—
Blood.....	2.37	5c	2.42
Azoline (cheek).....	2.35	6c	2.40
Azoline (pork).....	2.35	6c	2.40
Tankage (concentrated).....	2.25	6c	2.30
Tankage (3 and 20).....	2.39	10c	2.35 & 10
Tankage (7 and 30).....	19.50	6c	20.00
Fish (dry).....	27.50	6c	30.00

### Phosphate and Fertilizer Notes.

The exports of Tennessee phosphate rock from the port of Pensacola for the week ending the 1st inst. amounted to 2230 tons.

The exports of Tennessee phosphate rock from the port of Pensacola, Fla., for the week ending the 5th inst. amounted to 2795 tons.

The Tennessee Phosphate Co. of Mt. Pleasant, Tenn., exported 8921 tons of phosphate rock via Pensacola during the month of November to Venice and Genoa.

It is stated that a rich bed of phosphate rock has been discovered on Mountain creek, in Warren county, Tennessee. An analysis has shown the deposit to be of a superior quality.

The shipments of high-grade Florida phosphate rock from Savannah for the month of December amounted to 9561 tons, and for the twelve months ending December 31, 1900, the total shipments were 123,817 tons.

Shipments of Tennessee phosphate rock from the port of Pensacola for the month of December amounted to 9028 tons, and for the twelve months ending December 31, 1900, the total shipments were 128,920 tons.

The shipments of Florida phosphate rock from the port of Fernandina for the month of December, 1900, amounted to 5620 tons, and for the twelve months ending December 31, 1900, the total shipments aggregated 173,468 tons.

It is stated that the amount of royalty received on phosphate rock since the establishment of the industry by the State of South Carolina amounts to \$3,241,402.06, while the privilege tax on fertilizers amounted to \$760,696.18.

The Austrian steamship Lodovico was loading a cargo of phosphate rock at Fernandina, Fla., on the 2d inst. The Lodovico is one of the largest vessels that ever entered the port. She will take out 51,000 tons of rock and draw when loaded twenty-two feet two inches.

The shipments of phosphate rock from the port of Punta Gorda for the month of December were 7378 tons domestic and 9630 tons foreign; previously reported during the year just closed 25,701 tons domestic and 11,797 tons foreign, making a total of 54,506 tons, of which 33,079 were domestic and 21,427 tons foreign, all shipped by the Peace River Phosphate Mining Co.

The new fertilizer works of Armour & Co. at Baltimore commenced operations last week. About 150 men are employed at the factory, which is turning out 1000 tons a week. This output will be increased within two weeks to the full capacity of the factory, 60,000 tons a year. Four vessels were cleared from the works last week for Savannah, Charleston and other points with full cargoes.

A stock company with a capital of \$40,000 is to be organized to build a factory at Southport, near Wilmington, N. C., to manufacture fish scrap for fertilizers and other uses. Work on the plant has already commenced. Several thousand tons of fish scrap will be turned out each year, and it is expected that most of the product will be consumed by the Virginia-Carolina Chemical Co. and other local fertilizer factories.

### TRADE NOTES.

A Special Oil Filter.—The Badger Brass Manufacturing Co. of Kenosha, Wis., has installed a No. 1 Special Cross Oil Filter, purchased from the manufacturer, the Burt Manufacturing Co. of Akron, Ohio.

Graphite Company in Washington.—The Detroit (Mich.) Graphite Manufacturing Co. of 141 Broadway, New York, has established a branch office in Washington, D. C. The manager will be Alfred Tyler, formerly of the Washington Hydraulic Press Brick Co. He has apartments in the Atlantic Building, 528 F street. The company's various kinds of graphite productions are well and favorably known.

Dixon's Southern Interests.—The Southern and Southwestern Interests of the Joseph Dixon Crucible Co. of Jersey City, N. J., will hereafter be attended to by Samuel H. Dougherty. Mr. Dougherty has been connected with the New York offices for seventeen years, and is thoroughly qualified for his duties. He will establish his headquarters in the Planters' Hotel, St. Louis, Mo. Dixon graphite, plumbago and black lead and their various products are the manufactures of this old-established company.

Brick and Tile in Alabama.—An inviting field of manufacture in Alabama is the production of brick and tile. It is said the demand for brick in the Birmingham district far exceeds the supply, and that section is, therefore, affording excellent opportunities for the establishment of brick plants. A plant already established can be purchased now because of the recent death of the owner. It cost originally over \$50,000, and is ready to operate at a moment's notice. It is not often that opportunities of this nature arise. Those desiring further particulars can address Latham & Reynolds, Montevallo, Ala.

Canning in the South.—An industry that is sure to assume an important position in the activity of Southern development is comprised by canneries. The necessary basis

for the industry—fruits, vegetables and various other table products—is plentiful throughout the section, and agricultural advancement is yearly increasing largely the supply. It is not necessary that large amounts of capital be available in order to establish a cannery equipped with the latest improved apparatus. Machinery for processing and canning the various marketable goods can be purchased at less than a hundred dollars, and from that up to many thousands of dollars. Messrs. A. K. Robins & Co., 724 East Pratt street, Baltimore, Md., are manufacturers and dealers in the class of machinery in question.

Babcock & Wilcox's New Works.—The beginning of the new century saw the commencement of operations in the new works of the Babcock & Wilcox Co. at Bayonne, N. J. This extensive plant is stated to be the largest of its kind in the world; its floor space aggregates 160,000 square feet, with 40,000 additional to be added soon. The equipment includes special tools, machinery and other apparatus designed for economical and effective manufacture in boiler construction. The shipping advantages are by both rail and water. The Babcock & Wilcox boilers have been built since 1867, and their fame is renowned all over the world. The demand yearly increases, and the marine boilers introduced in recent years by the company are also on the way to the same universal recognition as the first product has attained. The United States Navy uses the marine water-tube boilers; the British Navy will soon use them, and the merchant marine utilizes them extensively.

Ideal Engines.—It is well known that there is no factor in the power plant more important than the engine. Therefore, when erecting new or enlarging old steam plants the selection of the engine to be installed is given serious consideration. The design and construction of acceptable steam engines is no child's play, and manufacturers of the highest ability have devoted their energies to the work. Messrs. A. L. Ide & Sons of Springfield, Ohio, have been especially successful in this field, and their "Ideal Engine" is widely and favorably known. Sales of this machine are continual and in large numbers. Recent sales were made to the most prominent industrial concerns, both in this country and in other lands. A list of the recent sales shows that nearly sixty engines were disposed of, ranging in horsepower from 50 to 300. Some were direct-connected, others were belted. A 50-horsepower engine went to Italy; an 80 belted and 150 direct-connected to England; a 250 and a 100 belted to Mexico, and a 50 belted to Rio de Janeiro.

Huge Steam Engines.—Engineers and steam users especially will be interested in reference to two huge steam engines that have been built at Pittsburgh. The engines are of the vertical cross-compound condensing type, especially designed for driving alternating current generators mounted directly on the shaft. They have a nominal capacity of 4000 horse-power, and will carry successfully overloads of 7500 horse-power. The principal dimensions are: Height from floor line to top of cylinders, about 35 feet; length along the shaft, 38 feet 6 inches; width, 28 feet; diameter of high-pressure cylinder, 46 inches; diameter of low-pressure cylinder, 86 inches; stroke, 60 inches; number of revolutions per minute, 75; steam pressure, 170 pounds. The diameter of the shaft in the center is 39 inches; diameter of shaft at bearings, 34 inches; length of each bearing, 60 inches; total weight of the shaft without crank-checks or flywheel centers, about 75,000 pounds. The shaft is of hydraulic forged O. H. steel, having hole its entire length sixteen inches in diameter. The flywheel is very massive, having 100 tons in the rim; diameter of wheel, 28 feet; velocity of rim, 6000 feet per minute, or practically one-and-one-quarter miles. These few details indicate the unusual shop and foundry facilities of the engines' builder, and even their shipment is no insignificant problem. For instance, the two bedplates of one engine weigh forty-three tons each, cast in one piece. Special steel cars are being constructed by the Pennsylvania Railroad to take the engines to Brooklyn, where they will be reassembled and put in operation for the Kings County Electric Light & Power Co. The Westinghouse Machine Co., Pittsburgh, built these engines after designs by Cyrus Robinson, one of its prominent engineers.

Centrifugal versus Steam-Jet Blowers.—To settle the comparative efficiency of centrifugal fan blowers versus steam-jet blowers for the production of boiler draft, B. R. Healey recently experimented upon a standard type of refuse-burning furnace having twenty-

five square feet of grate surface. "In each furnace," he states to the Society of Engineers, London, "the furnace was got to full heat before commencing to record the results, and every care was taken to ensure precisely similar conditions for each test. The steam pipes were well covered with hair felt, the steam pressure was kept at eighty pounds during each trial, and the blast mains and blower outlets were all nine inches in diameter, which is the minimum for 25-foot grates. The first experiment was with a Korting steam-jet blower, the initial nozzle being twenty-five inches diameter, which gave a pressure of 20-inch water gauge. The second experiment was with a small high-speed engine geared direct to a Sturtevant centrifugal blower, and by using exactly the same weight of steam the pressure was increased to sixty inches. In these two experiments the furnace gases passed through a multitubular boiler ten feet long and six feet diameter to a stack, which was forty feet high above the grate. Two other experiments were afterwards made without the boiler, and the furnace gases passed direct to a special chimney twelve feet high over the furnace, and it was found that with the same blast pressure the incinerating power of the furnace was as nearly as possible the same as before, which indicated the extra duty the stack has to perform when steam generators are used. A fifth experiment was made with four Korting steam-jet blowers of the same size as the one used in the first experiment. These were fixed to a sole plate at the top of the chimney twelve feet above the furnace and used as exhausters. The asphalt doors being open, it was found that the in-draught at the furnace doors was only 25-inch water gauge. The power of the furnace was considerably less than in the other experiments, although using four times the quantity of steam. The result was anticipated, but the experiment was made to convince certain parties of the folly of using steam jets to any large extent in chimneys."

General Electric in 1900.—Great progress was made in electrical fields during 1900. The introduction of electrical apparatus into new avenues, as well as its expansion where entry had already been made, seems now limited only by the number of engineers competent to give its promotion that breadth of comprehension of economies and that understanding of mechanical applications which are essential to a ready grasp of the advances of those things which are new. It can be stated as a broad proposition that the use of electrical apparatus will invariably promote economies, and advancement in nearly all the fields of industrial endeavor may best be marked by the number of undertakings under the influence of progressive electrical engineers. A review of the 1900 work of the General Electric Co. contains much of interest. The company reports its business as showing a large increase over 1899, notwithstanding the latter year was the best in its history. By means of enlarged facilities this company has made deliveries keep pace with increased orders. New projects requiring large quantities of electrical apparatus were numerous, and final deliveries have been made on large outstanding orders. Prices of raw materials chiefly used in the electrical work remained at the high record made in 1899 until November last. Since then actual advances have been demanded which, if continued, must lead to increased prices for finished electrical products. Noted improvements have been made in the equipment of central station lighting apparatus, older and more inefficient types of generators and devices being discarded and replaced by larger units of higher efficiency and more substantial character. In electrical railway work there has been a decided tendency to use equipments of four motors instead of two, thus giving greater power, higher speed and generally more satisfactory service. Great advances have been made in the equipment of large manufacturing plants with electric motors. The time is not far distant when distribution of power by electricity will be universal in mills and factories. One advance has been the equipment of each tool with individual motor in machine shops. The transmission of power by electricity over considerable distances is now merely a question of the market price for power. Power at a loss of only 8 per cent. on the line is today being transmitted eighty miles in California. The electrical equipment of water-powers has reached the point where many water-powers heretofore considered so inaccessible as to be of no commercial value are today among the most desirable properties. The electrical transmission of power from coal mines using slack for fuel is now attracting the attention of capitalists, and plants in different sections have proved great commercial successes.



# CONSTRUCTION DEPARTMENT.

**THE MANUFACTURERS' RECORD** seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with every one interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

\*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in a town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and it is often advisable to add the names of one or more incorporators as an aid to the postmaster in delivering mail.

## ALABAMA.

Birmingham—Furnace, etc.—It is rumored that H. F. De Bardeleben has recently purchased lands at Clements Station, and will build a large furnace.

Birmingham—Confectionery-factory Company.—The Warner Ice Cream & Candy Co. has been incorporated, with capital stock of \$10,000, by R. S. Warner and others, to manufacture ice cream, candy, cake, etc.

Decatur—Manufacturing.—A dispatch states that Nashville (Tenn.) capitalists have purchased the plant of the Alabama Machine Works at Decatur for \$20,000, and will enlarge and improve same and convert it into a manufacturing establishment.

Dothan—Electric-light Plant.—The city will issue bonds for erection of an electric-light plant. Address "The Mayor."

Huntsville—Cotton Mill.—Messrs. Wm. H. Rowe & Son of New York, lately fully reported as to locate a \$300,000 cotton factory in Huntsville, are of the Wayside Knitting Co. at Troy, N. Y., and of other mill companies in their State.

Mobile—Land and Cattle Company.—Chartered: The Alabama Land & Cattle Co. (under Delaware laws), with capital stock of \$500,000.

Mobile—Building Company.—The Fonde Building Co. has been incorporated, with Hiram Fonde, president; Ray Fonde, vice-president; S. Mallory Le Baron, secretary and treasurer; company has factory at 23 South Water street for sash, doors, blinds, hardware, mantels, grates and tilings.

Montgomery—Air-moistening System, etc. R. F. Ligon, Jr., J. H. Faunce and Arthur Jones have incorporated the National Air Moistening Co., with capital stock of \$5000, to manufacture air-moistening and ventilating apparatus for textile manufactories, tobacco works, etc.

Selma—Iron Works.—Peacock's Iron Works has put in compressed air and is now ready to install pneumatic tools of all kinds.

Talladega—Cotton Mill.—The Chinnabee Cotton Mills, lately reported, has completed organization, with T. S. Plowman, president, and will build at once a 5000-spindle mill.

Talladega—Iron Furnace.—Eugene Zimmerman of Cincinnati, Ohio, owner of the

Talladega pig-iron furnace (now idle), will blow it in about February 1.

Tuscumbia—Ice Factory.—L. H. Patton and C. H. Barry of Huntsville have received franchise for establishment and operation of a 25-ton ice factory in Tuscumbia.

Tuscumbia—Electric-light Plant.—C. H. Barry of Huntsville has received franchise for erection of an electric-light plant in Tuscumbia.

## ARKANSAS.

Little Rock—Machinery Company.—The C. E. Rosenbaum Machinery Co. has been incorporated, with capital stock of \$50,000; C. E. Rosenbaum, president; Henry Schmuck, secretary and treasurer.

Little Rock—Furniture Factory.—The Capital Furniture Manufacturing Co., reported several weeks ago, has awarded contract to Lofty Colomore for erection of its building; machinery to be installed will cost \$10,000, company will have electric-light plant and dry-kiln; power plant will consist of a battery of boilers and a 150-horse-power engine. S. J. Beauchamp is president.

Saginaw—Live-stock Company.—Chartered: The De Leare Live-Stock Co., with capital stock of \$5000, by R. N. Breedlove, secretary, and others.

## FLORIDA.

Apalachicola—Electric-light Plant.—The Cypress Lumber Co. contemplates installing an electric-light equipment to light its lumber mills.

Bartow—Ice Plant.—The Bartow Electric Light Co. has awarded contract for a five-ton ice plant.

Chipley—Water System.—The city will hold an election to decide the issuance of \$10,000 for boring artesian wells for water supply and for street improvements. Address "The Mayor."

Gainesville—Ice Plant.—It is reported that the Diamond Ice Co. will erect an additional 15-ton ice plant.

Huntington—Woodworking Factory.—The Huntington Mills has installed machinery for the manufacture of barrel heads.

Pensacola—Phosphate Mines.—The Hamilton County Mining & Phosphate Co. has been organized, as recently reported, for development of phosphate lands and manufacture of fertilizers; company owns 600 acres of pebble phosphate lands, and will have a capacity of 100 tons per day of ten hours. Address Dunwoody Jones, general manager, 252 Capitol avenue, Atlanta, Ga.\*

Pensacola—Cotton Compress, etc.—William W. Bierce and Columbus Bierce of New Orleans, La., and O. O. Nelson of Pensacola, Fla., have incorporated the Pensacola Compress & Manufacturing Co., with capital stock of \$60,000, to compress cotton, manufacture cottonseed into its various products, etc.

Point Washington—Lumber Company.—The Odd Lumber Co. has been incorporated, with capital stock of \$25,000, to manufacture timber, shingles, etc., by John Strickland, W. H. Easley and Simeon Strickland.

Yallaha—Kaolin Plant.—The American Kaolin Co., reported recently as erecting a \$100,000 kaolin plant, states that it is erecting three very large plants, one of which is about completed, and will begin shipping January 15; E. T. Haines, manager.

## GEORGIA.

Athens—Foundry.—John W. White, John W. Welch, James A. Morton, John W. Morton, and W. C. Houchin have incorporated the Athens Foundry and Machine Works, with capital stock of \$15,000, for operating the Athens foundry.

Athens—Creamery, etc.—The State University will expend \$2500 in establishing a creamery and dairy.

Atlanta—Plow Factory.—The Walker-Sims Plow Co. has been incorporated, with capital of \$6000, and privilege of increasing to \$50,000, by T. F. Walker, George H. Sims, W. J. Meno, George L. Bell and H. H. Walker, all of Gwinnett county.

Atlanta—Ice Plant.—The Atlanta Ice Co. is making improvements, including a 50-ton ice plant with 300-pound cans, ammonia condenser, etc., and erection of an additional building for storing ice; contracts awarded.

Buford—Water-works and Electric-light Plant.—The city will probably construct water-works and electric-light plant. Address "The Mayor."

Cherokee County—Gold Mines.—The Haynes Gold Mining Co., reported recently as organized at Chattanooga, Tenn. (its principal office), for development of gold mines in Cherokee county, Georgia, will prosecute work until extent of ore bodies has been determined, and then erect, if the results justify it, an extraction plant suitable for dealing with character of ores found. For further particulars address Robert Hooke, president, Chattanooga.

Clarksville—Telephone System.—John Martin and C. W. Oakes of Nacoochee, Ga., and others have received franchise for telephone system and will construct same.

Clarksville—Cannery.—It is proposed to organize a company for the establishment of a canning factory. For information address "Promoter," Box 282.\*

Columbus—Sewerage.—An ordinance has been introduced in city council providing an election to vote on \$75,000 of bonds for construction of sewerage system. Address "The Mayor."

Cuthbert—Cotton Mill.—A. Hood, D. B. Teabent, A. F. Moye and others have been appointed a committee to solicit subscriptions towards the establishment of a \$100,000 cotton mill.

Dublin—Water-works.—The Dublin Electric Light & Water-Works Co. will, it is rumored, make improvements to its plants.

Eastman—Cotton Mill.—A company has been organized, with M. H. Edwards, president; Sol Herrman, vice-president; C. H. Peacock, secretary and treasurer, for the erection of a cotton factory.

Macon—Cotton-oil Mill and Fertilizer Factory.—A. Block, N. M. Block and I. Block have incorporated the Sterling Cotton Oil Mill, with capital stock of \$100,000, for the manufacture of cottonseed oil and fertilizers; building is being erected.

Marletta—Broom Factory.—The establishment of a broom factory is contemplated. John Watson can give information.\*

Rome—Machinery Works.—A. R. Battey, Julian Cumming and L. D. Yeargan have incorporated the Battey Machinery Co., with capital stock of \$5000, for manufacturing and dealing in all kinds of machinery, etc.

Savannah—Mercantile.—The Georgia Supply Co. has been chartered, with capital stock of \$10,000, and privilege of increasing to \$100,000, by George V. Denny of North Carolina, J. H. Haslam of Savannah and others.

Union Point—Cottonseed-oil Mill.—It is proposed to organize a \$25,000 company for the erection of a three-press cottonseed-oil mill. R. F. Bryan can give information.

Waycross—Ice Factory.—The Waycross Ice Co., reported recently as organized, has awarded contract for a 35-ton machine, refrigerated storage-rooms, etc.

## KENTUCKY.

Bellevue—Electric-light Plant.—The city contemplates granting franchise for erection of an electric-light plant. Address "The Mayor."

Bowling Green—Stone Company.—Chartered: The Bedford-Bowling Green Stone Co., with capital stock of \$30,000, by J. E. Pitts and D. Y. Johnson.

Franklin—Woolen Mill.—The Franklin Woolen Mills Co. has nearly completed the erection of a storage building and additions to its mill at a cost of \$12,500.

Henderson—Water-works.—Edmund B. Weston, 86 Weybossett street, Providence, R. I., is preparing plans and specifications for a city filtration plant of 3,000,000 gallons capacity at Henderson. The works, with extension to water mains, will cost about \$25,000; S. H. Kimmel, city engineer.

Lexington—Hardware Company.—Chartered: The Smith-Watkins Co., with capital stock of \$30,000, by Roger H. Smith and others.

Louisville—Medicine Factory.—Chartered: The Paracorp Company, for the manufacture of pharmaceutical products; capital stock \$100,000.

Louisville—Distillery.—The Mellwood Distilling Co. has been incorporated, with capital stock of \$100,000, for conducting a wine and whiskey, etc., distillery; incorporators, C. I. Bense, Orange, N. J.; L. A. Thompson, E. A. Fitzgerald, J. E. King and others of New York city.

Louisville—Distillery.—The Crystal Springs Distillery Co. has been incorporated, with

capital stock of \$250,000, to manufacture alcoholic liquors and distilled spirits, by Hayes Booker and Edmund H. Junge of Brooklyn, N. Y.; M. A. Tripp of New York city and others.

Nicholasville—Telephone System.—B. M. Arnett, A. K. Adcock, William Glass, J. H. Welch and J. D. Hughes have incorporated a \$10,000 stock company for construction of a telephone system.

Paducah—Telephone System.—J. J. Speed of Cairo, Ky., representing the American Telephone Co., is investigating with a view to securing franchise for constructing telephone exchange in Paducah.

Paducah—Gas Plant.—The Paducah Gas Co.'s plant will be enlarged at a cost of \$20,000. Ten miles of new mains will, it is rumored, be laid.

Paducah—Mercantile.—Chartered: The D. W. Randolph Grocery Co., with capital stock of \$15,000, by D. W. Randolph and others.

Princeton—Water-works.—The city will construct water-works. Address "The Mayor."

## LOUISIANA.

Abbeville—Irrigation System.—The \$500,000 company reported recently to be organized by A. Kaplan for establishment of irrigation system has been incorporated as the Abbeville Canal Co. Others interested are Frank A. Godchaux, Eli Wise and A. J. Godard.

Clinton—Cotton Mill.—Isador Mayer, who recently purchased the Clinton Cotton Mills, will organize company to put same in operation.

Crowley—Repair Shop.—Gaar, Scott & Co., Richmond, Ind., state that they will not build a repair shop in Crowley, as was lately reported, but are simply building a warehouse for machinery.

Crowley—Rice Association.—The Rice Growers and Millers' Association has been incorporated to handle rice and rice machinery and to conduct general mercantile business, with capital stock of \$250,000. L. E. Robinson of Welch is president; C. A. McCoy of Lake Charles, vice-president; A. B. Allison of Crowley, secretary, and C. A. Lowry of Lowry, treasurer.

Jeanerette—Sugar Mill.—F. J. De Gravelles will build a sugar mill, installing a six-roller mill to grind 100 tons cane daily of eighteen hours.

Jennings—Ice Factory.—The Jennings Light & Power Co. will, it is rumored, erect a 20-ton ice plant.

Midway—Lumber Company.—The Midway Lumber Co. has been incorporated, with capital stock of \$25,000. A. B. Seale is president; J. M. Robertson, vice-president; J. V. Polk, treasurer, and A. P. Seale, secretary, all of Beaumont, Texas, where the company will also have an office; company is operating saw-mill at Midway.

New Iberia—Knitting Mill.—The New Iberia Cotton Milling Co. will erect a knitting mill, to be built so that the cotton mill originally designed to cost \$125,000 can be added.

New Orleans—Tobacco Factory.—The People's Tobacco Co., Ltd., has ordered new and additional machinery for its factory.

New Orleans—Tobacco Factory.—R. Beauvais is organizing a \$50,000 stock company for the manufacture of perique tobacco.

New Orleans—Candy and Cracker Factory.—The Pelican Cracker Factory has been incorporated, with capital stock of \$25,000, to manufacture candy and crackers, etc. Isador Hechinger is president; Hewes T. Gurley, vice-president; Julius Kahn, secretary.

New Orleans—Electric Plant.—Emmett Craig and others have incorporated the New Orleans Power-House Co., with capital stock of \$50,000, to build and operate electric-power plants, etc.

New Orleans—Chemical Works.—S. P. Nickells, W. H. Stone, L. N. Brunswick, Arthur Parker and others have incorporated the Nickells-Stone Chemical Co., Limited, for the manufacture of chemicals, medicines, etc.; building has been leased and will be remodeled and equipped; equipment will include vacuum pans, batteries of stills, pill-making machines, crushers, etc.

New Orleans—Power-houses.—The New Orleans Power House Co., Limited, has been incorporated, with capital stock of \$50,000, for the construction and operation of electric power-houses, etc. S. P. Wainsley is president; David G. Baldwin, vice-president; Harry Allen, secretary and treasurer. Bids

will be opened January 17 for pile-driving, concrete and brick foundations for company's powerhouse after plans with Thos. Sully, architect, 1019 Hennen Building. Address the secretary, care of Louisiana National Bank.

New Orleans—Paper Mill.—The United Railway Trading Co. of England, Quinton Hogg, chairman, has acquired the Kenilworth sugar estates of 10,000 acres of sugar lands and a large refinery, will conduct same and erect a factory for the manufacture of paper out of bagasse. Address care of E. B. Kruttschnitt.

Newroads—Ice Plant.—Ed. Gaudin and I. G. Morgan will organize a company to erect an ice plant.

Shreveport—Saddlery.—J. F. Looney of Shreveport, T. F. Birdwell of Nacogdoches, Texas, and J. H. Tucker of Natchitoches, La., will organize a \$75,000 company for the establishment of a saddlery in Shreveport.

Waverly—Saw mill.—The Chicago Export Lumber Co. is building a band-saw mill at Eldorado, with capacity of 50,000 feet per day.

#### MARYLAND.

Baltimore—Dairy.—The Farmers' Dairy Co. has been incorporated, with capital stock of \$25,000, to conduct milk routes, by Albert Jones, Evan Haines, Daniel E. Buckley and Louis P. Slinguff of Carroll county and Edward S. Kines of Baltimore.

Baltimore—Tailors' Supplies.—The Phoenix Pad Co. has been incorporated to manufacture clothiers' and tailors' supplies, by Edward Goldman, Jacob A. Rice, Edward H. Marcus and others; capital stock \$100,000.

Baltimore—Starch Factory.—The Staley Manufacturing Co. has about completed repairs and improvements to its starch factory, burned several weeks ago; output will be doubled.

Baltimore—Mineral-water Company.—Jas. D. Brown, Robert H. Thomas, William S. Adkins and others have incorporated the Baltimore Carbonating Co. for dealing in mineral and soda waters; capital stock \$20,000.

Baltimore—Steel and Shipbuilding Plant.—Plans will be submitted to stockholders soon for the reorganization of the Pennsylvania Steel Co., with plants at Steelton, Pa., and Sparrow's Point, near Baltimore, owning all the stock of the Maryland Steel Co. Of the \$20,500,000 stock to be issued, \$5,000,000 will be used for additional working capital and for improvements and extensions to the plants at Sparrow's Point and Steelton. Office of Pennsylvania Steel Co., Girard Trust Building, Philadelphia.

Belair Road Improvements.—The Harford county roads will be macadamized and improved at a cost of \$58,000. Address "County Commissioners."

Chestertown—Electric Light Plant.—The Chestertown Electric Light & Power Co. has been incorporated, with capital stock of \$25,000, by Miles Arlee Hoffman of Philadelphia, Pa.; A. H. Tracy, John K. Wright, Marion De Kaib and others.

Denton Telephone System.—The Maryland & Delaware Telephone Co. has been chartered in Delaware and will absorb 120 miles of lines built by the Queen Anne's Railroad Co., and proposes to build additional lines. Baltimore (Md.) parties are interested. Harry A. Richardson of Dover, Del., can probably inform.

Ellieott City—Electric Light Plant.—Jacon Shaw, George L. Mowen and Edward L. Ward, recently reported as having purchased the plant of the Ellieott City Electric Co. and to operate it, have, with Harry L. Stewart, John H. B. Jefferson and others, organized the Baltimore & Ellieott City Electric Light & Power Co., with capital stock of \$15,000.

Glen Rock—Water-works.—The city will vote on the issuance of \$18,500 of bonds for construction of water-works; will use eight miles of pipe. Daniel G. Adelsberger, 722 Pennsylvania avenue, Baltimore, Md., is engineer.

Gulford—Stone Quarry.—The Maryland Granite Co. of Baltimore has purchased the Gault stone quarry at Gulford, and will expend \$50,000 in improving and operating same.

Hagerstown—Ice Plant.—The Hagerstown Brewery Co. has awarded contract for erection of its \$20,000 ice plant recently mentioned.

Midland—Electric Light Plant.—A stock company will be organized, probably with \$8000 capital, to build the proposed electric light plant lately mentioned. C. C. Bailey can probably inform.

Northeast—Steam Sheet Mill.—The McCullough Iron Co. will put its steam sheet mill in operation.

Powhatan—Woolen Mill.—Nicholas W. Steele and George W. Albaugh of Howard county, David Lowenstein, Thos. R. Bowling and Abr. L. Rosenaur of Baltimore have incorporated the Powhatan Woolen Co., with capital stock of \$150,000, for the erection of a kersey mill. Nicholas W. Steele should be addressed, care of Geo. W. Albaugh, Westminster, Md.

#### MISSISSIPPI.

Hattiesburg—Sewerage.—The city will construct a system of pipe sewers; bids to be opened January 7. Address C. W. Rich, mayor.

Hollandale—Cotton-oil Mill.—J. E. Branton, P. R. Branton, A. J. Paxton, H. C. McGee and others have incorporated, with a capital stock of \$40,000, the Hollandale Oil Co. for the manufacture of cottonseed oil, etc.

Jackson—Planing Mill.—J. S. Allen & Co. of Memphis, Tenn., will erect a \$10,000 planing mill and stove factory in South Jackson.

Jackson—Fertilizer Factory.—The Virginia-Carolina Chemical Co., main office, Richmond, Va., states that the building of the plant at Jackson, Miss., lately reported, has not been at all settled upon.

#### MISSOURI.

Kansas City—Box Factory.—The Forrester-Nace Box Factory has been incorporated, with capital stock of \$30,000, for the manufacture of boxes and similar wooden articles. William S. Forrester, Bruce E. Nace and J. Will Merrill are the incorporators.

St. Louis—Manufacturing.—Chartered: The Lanterman Manufacturing Co., with capital stock of \$30,000, by J. S. Lanterman, C. E. Cory and G. S. Johnson.

Washington—Pipe Works.—The Phoenix American Pipe Works has been incorporated, with capital stock of \$30,000, by Charles Strutz, John Calvin and Marlon Strutz.

#### NORTH CAROLINA.

Asheville—Ice Plant.—W. B. McEwen contemplates erecting an ice factory.

Baker—Woodworking Factory.—Hoffman & Mull will add the manufacture of sash, doors and blinds to their business.\*

Charlotte—Plumbers' Supply Works.—Dowd & King will erect a large plant for manufacturing plumbers' supplies.

Charlotte—Cotton Mill.—R. E. Morrell is interested in the establishment of a \$75,000 or \$100,000 mill to make combed yarns; very long staple will be used, probably Sea Island cotton; mill will have 5000 spindles.

Concord—Furniture Company.—The Bell-Harris Co. has been chartered, with capital stock of \$12,000, and privilege of increasing to \$30,000, by W. L. Bell, W. R. Harris, John C. Wadsworth and others.

Durham—Sewerage and Street Improvements.—It has been decided by vote to issue the \$200,000 of bonds for sewerage purposes and street improvements lately noted. Address "The Mayor."

Greensboro—Shuttle Works.—The Piedmont Shuttle Works, heretofore a partnership, has incorporated, with W. H. Bishop, president and manager, and C. E. Fleming of Spartanburg, secretary-treasurer; company is making shuttles from the stump up and its own metal parts; will continue to make picker-sticks, skewers and other mill specialties. A new dry-kiln is being added and considerable new machinery will be installed to increase output to 500 dozen shuttles per month. A bobbin plant in connection is contemplated.

Greensboro—Brick Works.—The Pomona Terra Cotta Co. contemplates the manufacture of a new kind of paving brick and a new pressed brick for building fronts.

High Point—Water-works.—F. H. Knox of Charlotte will make borings for shallow well system of water supply at High Point, and if water is not found in sufficient quantity a supply will be brought from the river; L. Flagler, city treasurer.

High Point—Woodworking Factory.—J. H. Tate and others have organized a company, with capital stock of \$40,000, for the manufacture of sash, doors, blinds, dressed lumber, etc. It was reported lately that J. H. Tate would erect a furniture factory.

Kingsdale—Saw mill.—The Southern Saw-Mills & Lumber Co. (general offices in Bourse Building, Philadelphia, Pa.) is erecting a saw mill of 50,000 feet capacity per day.

Kinston—Oil Mill and Ice Factory.—The Lenoir Oil & Ice Co. has been organized and will build an oil mill and ice factory. Names of interested parties will be announced later.

Lexington—Furniture Factory.—E. J. Buchanan, W. H. Walker, E. L. Greens, P. J. Leonard and others have organized the Dixie Furniture Co., capital stock \$15,000,

and purchased site whereon a furniture factory will be built.

Lexington—Supplies.—Incorporated: The Farmers' Supply Co., capital \$5000, by T. J. Taylor and associates.

Mt. Airy—Lumber and Tobacco Company.—The Hadley-Smith Co. has been incorporated for the manufacture of tobacco and lumber by J. A. Hadley, E. A. Smith of Mt. Airy, C. B. Keese of Martinsville, Va., and others. The capital stock is \$100,000.

Pilot Mountain—Furniture and Supplies Factory.—The Pilot Mountain Furniture Co. has been organized, with I. L. Smith, president, and O. J. Denny, secretary and treasurer, to establish a furniture and builders' supplies factory; site has been purchased and machinery will be installed at once. The capital stock is \$25,000.

Raleigh—Telephone Systems.—The American Telephone & Telegraph Co. has been incorporated, with capital stock of \$15,000, and privilege of increasing to \$100,000, for constructing and operating lines of telephone and telegraph. Edward J. Hall of Morris Township, N. J.; A. B. Andrews, Jr., of Raleigh, N. C.; Melville Eggleston of Elizabeth, N. J., and others are the incorporators.

Raleigh—Tobacco Factory.—The Norwood Cigar Co. has been incorporated, with capital stock of \$30,000 and privilege of increasing to \$500,000, by J. Hal Bobbitt, J. W. Harden, Jr., James M. Norwood and others, for the manufacture of tobacco, cigars, etc.

Statesville—Furniture Factory.—The Kincaid Furniture Co., lately reported, has organized, with W. A. Thomas, president; G. H. Brown, vice-president, and W. T. Kincaid of Cleveland, N. C., secretary. Factory will be constructed for, both buildings and machinery, soon; capital \$20,000.\*

Statesville—Chair, etc., Factory.—A company will be organized, with capital stock of \$10,000, for the manufacture of chairs, broom-handles and similar articles. Dr. Harrell is interested.

Statesville—Showcase Factory.—The Star Manufacturing Co. will be organized, with capital stock of \$10,000, to succeed the Star Showcase Co. Showcases and store fixtures will be manufactured on a larger scale. Carl S. Turner and B. M. Dellinger are the incorporators.

Southport—Fish-product Factory.—Gustave R. Tuska is president; J. F. Bussells, manager, and R. H. Milligan, superintendent, of the Atlantic Construction Co., organized, with capital stock of \$50,000, for conducting a menhaden factory to operate in connection with a large fishery, lately reported.

Thomasville—Water-works.—It is said that \$5000 has been secured for constructing works at the Thomasville Baptist Orphanage; J. D. Boone, manager.

Weldon—Ice Plant.—W. T. Johnson of Salisbury, Md., will, it is reported, erect an ice plant at Weldon.

Wilmington—Printing.—Chartered: The Le Gwin Printing Co., with capital of \$3000, by L. M. Le Gwin and others, to succeed Le Gwin Bros.

#### SOUTH CAROLINA.

Charleston—Contractors.—The J. T. Snelson Contracting Co. has been chartered, with capital of \$3000, by John T. Snelson and others to conduct a general contracting business.

Charleston—Live-stock.—The Charleston Live-Stock Co., with capital stock of \$10,000, has been chartered by W. T. Gregory (president) and others.

Charleston—Lumber Company.—The Wando Lumber Co. has increased its capital from \$7000 to \$10,000, for the purpose of erecting a saw-mill of 15,000 feet daily capacity.

Chester—Drug Company.—The Woods Drug Co., with capital stock of \$3500, has been chartered by H. R. Woods (secretary) and others.

Columbia—Woodworking Factory.—The Carolina Contracting Co., reported some time ago as incorporated, has main building completed, 100x60 feet; machinery for manufacture of all kinds of builders' and mill supplies will be installed, for tables, desks, shelving, etc.; also steam-power plant is being erected. John P. Thomas, Jr., is president.

Cowpens—Cotton-oil Mill.—The Cowpens Cotton Oil Mill Co. has been incorporated, with capital of \$4000, by William M. Webster, Wm. B. Potter and Elbert O. Webster.

Darlington—Mercantile.—Chartered: Crosby & Co., with capital stock of \$1000, by V. E. Crosby and others.

Dillon—Knitting Mill.—The Pee Dee Knitting Mills has been incorporated, with capital stock of \$10,000, by J. P. Ewing, C. S. Herring and A. B. Jordan.

Dillon—Clothing Factory.—The Dillon Clothing Co. has been incorporated, with capital stock of \$8000, by Max Fass, W. A. Fass and D. H. Fass.

Easley—Cotton Mill.—The Morris Cotton Mill Co. will increase capital stock from \$150,000 to \$200,000 for the purpose of enlarging.

Florence—Ice Factory.—J. T. Medlin of Waycross, Ga., will build a \$12,000 ice factory in Florence.

Greenville—Mercantile.—Chartered: The H. K. Sturdivant Co., with capital stock of \$20,000, by H. K. Sturdivant and others.

Latta—Supply Company.—Chartered: The Latta Supply Co., by E. B. Berry, L. H. Smith and D. M. Dew; capital stock \$10,000.

McColl—Mercantile.—Chartered: F. P. Tatum, Sons & Co., with capital stock of \$20,000; W. H. Fletcher, president.

Spartanburg.—The Crutchfield-Tolleson Co. has increased its capital stock from \$20,000 to \$50,000.

Spartanburg—Mercantile.—Chartered: The A. M. Alexander Co., with capital stock of \$5000, to deal in pianos, organs, etc., by A. M. Alexander (president) and others.

Spartanburg—Publishing.—Chartered: The Journal Company, by Charles H. Henry (president) and others; capital \$5000.

St. Matthews—Mercantile.—Chartered: The Shep Pearlstein Co., with capital stock of \$30,000, by Shep Pearlstein and others.

Woodstock (not a postoffice)—Hardwood and Spool Factory.—The Woodstock Hardwood & Spool Manufacturing Co. has been incorporated, with capital stock of \$15,000, to conduct manufacturing business. W. H. Welch is president, and Julius D. Koster, secretary-treasurer.

#### TENNESSEE.

Blountville—Printing.—Chartered: The King Printing Co., with capital stock of \$5000, by T. W. Preston, M. C. Shuff, J. C. Byars and others.

Bristol—Machine Shops.—The Virginia & Southwestern Railway Co. will rebuild its \$50,000 shops, reported burned; C. Shields, vice-president.

Charleston—Lead and Silver Mines.—Geo. S. Ober of Madison, Ga., and T. T. Wilson of Chattanooga, owners of the Gray lead and silver-mining property near Charleston, will install new machinery and open up the mines.

Chattanooga—Refrigerator Factory.—The Odorless Refrigerator Co. will soon let contract for the erection of a new large plant for manufacturing refrigerators.

Chattanooga—Rolling Mill.—It is reported that L. Acheson of Brazil, Ind., will organize a company for the purpose of building, equipping and operating a rolling mill for the manufacture of merchant bar iron; address at Chattanooga.

Chattanooga—Bottling Works.—The Enterprise Bottling Works and the Mountain City Bottling Works have consolidated as the Chattanooga Bottling Co., incorporated with capital stock of \$25,000 and John Shamotulski, president; H. Berger, vice-president and manager, and Joe Goldstone, secretary and treasurer.

Jackson—Electric-light Plant.—The city will erect an electric-light plant to cost \$12,000 and be operated in connection with the water-works. Address "The Mayor."

Knoxville—Zinc Mines.—Peter E. Blow, C. W. Steele, William S. Shields and others have incorporated the Seven Day Zinc Mining Co. for operating the Seven Day zinc mines.

Knoxville—Furniture Factory.—The Proctor Furniture Co., reported recently as organized for the establishment of a furniture factory, will erect two two-story brick buildings 60x150 feet and 50x100 feet; J. C. Sterchl, president.

Knoxville—Coal Mines.—The Elk Valley Coal & Iron Co., controlling 8000 acres of coal, iron and timber lands in the Jellico district, will hold a meeting January 17 to consider a proposition from Eastern capitalists to purchase the property from Ohio parties, to lease and operate the property on a royalty or to determine whether the company will operate the property or accede to the propositions above mentioned. Address for full particulars C. R. Baird, Elk Valley, Tenn.

Knoxville—Knitting Mill.—Wiley T. Brownlee, formerly of Knoxville, but now of Sabine Pass, Texas, contemplates the establishment of a knitting mill at Knoxville.

Mountain City—Lumber Company.—The Tennessee Lumber Co. has been incorporated, with capital stock of \$60,000, by W. S. Sheaffer, W. W. Sheaffer, C. J. St. John and others.

Nashville—Electric Plant.—Chas. S. Brown,



M. E., has completed plans and specifications for an electric-lighting plant for the Kirkman Building, to include a pair of 60-kilowatt generators, with direct-connected engines, switchboards, etc. Contract has been awarded.

Nashville—Electric-light Plant.—Chas. S. Brown, mechanical engineer, will design and supervise the construction of the \$150,000 municipal electric-lighting plant lately noted.

Nashville—Coal Mines.—Chartered: The Barabatchie Coal Co., with capital stock of \$10,000, by W. H. Dietz, C. M. Dietz, L. O. Scott and others.

Nashville—Zinc Mines.—The Seven Day Zinc Mining Co. has been chartered, with capital stock of \$25,000, by C. C. Howell, W. S. Shields, C. E. Wait and others.

Nashville—Refinery and Cannery.—The American Syrup & Preserving Co. has been incorporated for refining sugar, molasses, sorghum, etc., and for canning preserves, etc., by E. T. Kirkpatrick, B. Rich, William Rich, R. M. Mills and D. F. Wilkins; capital stock is \$20,000. Address E. T. Kirkpatrick.

New Market—Zinc Mines.—A company has purchased the Inques zinc mines, near New Market, and will develop them at once.

New Market—Zinc Mines.—The Lay zinc-mining interests have been purchased by a company that will operate same.

Rockwood—Electric-light Plant and Water-works.—The city will hold an election January 25 to decide the issuance of \$25,000 of bonds for construction of water-works and erection of an electric-light plant. Address "The Mayor."

Sherman Heights—Bellows Factory.—The Tennessee Bellows Factory will install new machinery to increase its output; new and improved sawing machines will be installed, as well as other machinery.

#### TEXAS.

Abilene—Ice Factory.—The Lytle Ice Co., reported previously as incorporated, has purchased and will operate the Abilene Ice Co.'s plant, enlarging it to a capacity of fifty tons per day.

Bonham—Grain Elevator.—The Bonham Mill & Elevator Co. will increase its elevator capacity. Several large steel elevators will be built.

Bryan—Cold-storage Plant.—Sam M. Winter of Hensley, Ark., and E. P. Maddox of Fort Worth, Texas, will establish an ice and cold-storage plant at Bryan; contract for boring artesian well has been let.

Crockett—Mercantile.—Chartered: Shivers Bros., with capital stock of \$10,000, by James C. Shivers and others.

Dallas—Foundry and Machine Shops.—The Murray Co. has been incorporated, with capital stock of \$300,000, to operate foundries and machine shops and for the manufacture and repair of cotton gins and compress machinery, by John H. McDonough, Frederick I. Baker and A. G. Vardell.

Dallas—Ice Factory.—The People's Ice Co. has been chartered, with capital stock of \$80,000, by F. H. Doran, C. R. Jones and D. M. Jones.

Dallas—Knitting Mill.—Homer M. Price and associates contemplate establishing a hosiery mill.

Eagle Lake—Sugar Refinery and Cane Mill. Louisiana capitalists are said to be negotiating to build a \$250,000 sugar refinery and cane mill at Lakeside.

Eagle Lake—Rice Mill.—Captain Dunovant is building a rice mill at Lakeside.

El Paso—Mining.—The Union Mining Co. has been incorporated, with capital stock of \$20,000, by A. J. Childress, O. B. Colquitt, E. A. Stallings, all of Terrell, W. J. Taylor of El Paso and others.

El Paso—Broom Factory.—S. W. Smyser is corresponding with the Chamber of Commerce relative to locating a broom factory.

Ennis—Mercantile.—Chartered: The Moore-Jordan Co., with capital stock of \$10,000, by R. W. Moore and others.

Fort Worth—Ice Plant.—The South Fort Worth Ice Co., D. Brown, proprietor, will install a 30-ton plant to enlarge its factory.

Gainesville—Cannery.—T. W. Wade and J. W. Rose of T. W. Wade & Co., Springfield, Mo., contemplate establishing an \$80,000 cannery in Gainesville with capacity for 2000 cans per hour.

Galveston—Elevator.—Jockusch, Davidson & Co. will rebuild on a larger scale their elevator, reported burned; capacity of elevator destroyed was 58,000 bushels.

Galveston—Grain Elevator.—The Southern Pacific Railway Co. will, it is reported, build a grain elevator on pier A at Galveston with capacity for 1,000,000 bushels.

Greenville—Ice Plant.—The Greenville Ice

Co. will, it is reported, install new ice machine of fifty tons daily capacity.

Hearne—Oil Mill.—The erection of a \$50,000 cottonseed-oil mill is talked of, and possibly P. L. Brady can state who is interested.

Honey Grove—Mercantile.—Chartered: The J. B. McKee Co., with capital stock of \$35,000, by J. B. McKee and others.

Houston—Piano Company.—H. C. Sherrod Piano Co. has been incorporated, with capital stock of \$10,000, by Harry C. Sherrod and others.

Houston Heights—Dry-plate Works.—The Southwestern Dry Plate Co. has its works in operation; plant has capacity for 2000 dozen dry plates, but will only manufacture at first 100 dozen per day. Address S. W. Boggy, secretary, Corsicana, Texas.

Kaufman—Mercantile.—Chartered: The Kaufman Mercantile Co., with capital stock of \$25,000, by A. E. Carlisle and others.

Luling—Mercantile.—Incorporated: Walker Bros., capital \$30,000.

Marshall—Drug Company.—William H. Hodge, E. J. Fry, Jr., and others have incorporated the Fry-Hodge Drug Co., with capital stock of \$10,000.

Paris—Real Estate.—The Paris Real Estate & Building Co. has been chartered, with capital stock of \$100,000, by J. J. Culbertson, H. S. Bettes, W. B. Wise and others.

Winnboro—Ice Plant and Water-works.—The Winnboro Water-Works, Ice & Electric Light Co. has been organized and awarded contract for erection of a six-ton ice plant and construction of water-works.

#### VIRGINIA.

Abingdon—Overall and Pants Factory.—L. A. Palmer has established an overall and pants factory.

Basic City—Automobile Factory.—The Dawson Manufacturing Co., reported recently as incorporated, will manufacture automobiles and locomotives and conduct a general foundry and machine business; J. P. Chapman, secretary and treasurer.

Basic City—Foundry and Machine Shops.—The Dawson Manufacturing Co., reported lately as incorporated, capital stock \$5000, will conduct a general mining-machine business and manufacture locomotives, automobiles, dynamos, steam engines, etc.

Bedford City—Ice Factory.—W. A. Falconer, C. E. Harris and J. T. Davidson have organized the Bedford Ice Co. and awarded contract for an eight-ton ice plant.

Berkley—Ice Plant.—The Berkley Coal & Ice Co. has had plans made for erection of a building 100x40 feet to be equipped with a 20-ton ice plant.

Bristol—Dryhouse.—The Stone Lumber Co. will add dryhouse with daily capacity for 5000 feet.

Bristol—Sash, Door and Blind Factory.—Robert J. Wagner is erecting a sash, door and blind factory, two stories, 50x100 feet, exclusive of engine-room.

Chatterton—Saw mill.—Taylor & Allen's new saw-mill, lately noted as to be installed, will have daily capacity of 10,000 feet.

Damascus—Extract Plant.—Boston capitalists will, it is reported, establish a large plant at Damascus for making tanning and dye extracts, with capacity of 100 barrels per day. Names of interested parties will be announced later.

Danville—Shirt Factory.—The Morotock Manufacturing Co. will double its capital stock and its factory for shirts and overalls.

Danville—Water-power Developments.—The Riverside Cotton Mills, referring to its \$100,000 dam, reported last week, says it is the purpose to put the power in condition to be utilized as may be decided later, probably by constructing an electrical-transmission plant.

Danville—Knitting Mill.—The Danville Knitting Mills will install ten new knitting machines.

Eastville—Pickling Factory.—Efforts are being made to induce the Standard Pickling Co. of Urbana, Va., to locate a factory at Eastville.

Lambert—Ice Plant.—A company is being formed to erect and operate an ice plant.

Luray—Tannery.—Deford & Co. (office, Baltimore, Md.) have increased the capacity of their tannery, and are now grinding eighty cords of bark and have capacity of 350 hides per day.

Martinsville—Stave Mill.—The Franklin Log & Lumber Co. has installed machinery for the manufacture of staves.

Newport News—Rope and Twine Factory. A proposition has been made for the establishment of a rope and twine factory. Address Business Men's Association.

Norfolk—Coal Dock.—It is reported that Nottingham & Wrenn have made arrangements with the Southern Railway for construction of a coal dock at Pinner's Point to have elevated tracks, with automatic arrangements for handling coal.

Norfolk—Blacksmith Shops, etc.—The Griffith-Powell Co. has been chartered, with capital stock of \$5000, for conducting blacksmith and machine business. Edw. B. Powell is president, and E. J. Griffith, secretary and treasurer.

Norfolk—Electric-power Plant.—The Norfolk Light, Heat & Power Co., lately mentioned, has awarded contract for erection of its proposed plant's buildings to E. Patterson at \$22,000.

Norfolk—Land Improvement.—S. Q. Collins, A. E. Krise, W. T. Simcoe, B. Watkins Leigh of Norfolk, Stanley Bolling, S. D. Crenshaw and A. R. Ellerson of Richmond and others have purchased eighty acres of land with riparian rights in the Atlantic City ward at Norfolk for \$70,000, and will organize a company for extensively improving the property, including the construction of a bridge.

Richmond—Stove Foundry.—The Richmond Stove Co. has purchased additional property for enlarging its foundry, as reported recently; twenty new molders will be installed and other improvements made, increasing output 50 per cent.

Richmond—Wheel Works.—The Virginia & North Carolina Wheel Co. (noted several times) has had plans made by J. W. Throckmorton for its buildings, all one-story brick; main building will be 150x50 feet; dryhouse, 32x50; boiler-house, 30x30, and engine-room, 30x54 feet.

Roanoke—Ice Plant.—The Roanoke Ice, Coal & Cold Storage Co. will install new freezing and distilling system to double present capacity of its ice plant; contract for machinery awarded.

Roxbury—Cannery.—A stock company has been formed to build a cannery.

Williamsburg—Water-works.—The city will ask legislature for authority to vote on \$30,000 of bonds for construction of its proposed works; John L. Mercer, mayor.

Winchester—Ice Plant.—E. D. Palmer will erect a 20-ton ice and cold-storage plant; contract for machinery awarded.

Woodstock—Water-works.—Contract has been awarded to G. W. Minor of Davis, W. Va., for construction of water-works at Woodstock, lately mentioned; cost about \$20,000.

#### WEST VIRGINIA.

Bellington—Electric-light Plant.—The city will erect an electric-light plant. Address "The Mayor."

Charleston—Oil and Gas Lands.—The Elk River Oil & Gas Co. of Pittsburg, Pa., has been chartered for the purpose of operating in the Elk river valley; authorized capital \$1,000,000; incorporators, E. M. Hukell of Wilkesburg, Pa.; Richard G. Wood and Allen D. Wood of Allegheny, Pa.; Daniel L. Brown of Pittsburg, Pa., and others.

Charleston—Oil and Gas Wells.—E. A. Rider and others have leased 85,000 acres of land, and will drill for oil and gas.

Charleston—Coal Mines.—The Hope Coal Co., reported lately as incorporated, owns 4200 acres of coal lands which it will develop; W. T. Thayer, treasurer.

Clarksburg—Laundry.—W. W. Jamison, I. N. Kelly, J. D. Emery and others will build a \$15,000 steam laundry, incorporating a \$25,000 company to operate it.

Flattop—Ice Plant.—The Flattop Ice & Cold Storage Co. has contracted for a 15-ton ice plant.

Hinton—Electric-light Plant and Ice Factory.—The Hinton Light, Ice & Fuel Co., reported recently as incorporated for establishment of electric-light plant and ice factory, will build for a capacity of 2000 incandescent and eighty-five are lights and fifteen tons of ice. Address John Leslie.

Logan County—Coal Mines.—Col. R. B. Chew of Charleston is interested in the development of about 60,000 acres of coal lands in Logan and Boone counties.

New Martinsville—Ice Plant.—The Fairmont (W. Va.) Brewing Co. will, it is rumored, erect a 20 or 30-ton ice plant at New Martinsville.

New Martinsville—Window-glass Factory. The National Glass Co. of Indiana is investigating with a view to establishing a window-glass factory in New Martinsville.

West Virginia—Oil Lands.—The Star Oil Co. of West Virginia, with principal office at San Jose, Cal., has been incorporated, with authorized capital of \$600,000, by C. M. Shortridge, W. H. Christmas, T. C. Barnett of San Jose, Cal., and others.

Whites Creek—Transportation.—Chartered: The Smiley Towboat Co., with capital stock of \$50,000, by R. H. Vansant and M. L. Thomas of Ashland, Ky.; A. E. Smiley of Catlettsburg, Ky., and others.

Williamstown—Lumber Company.—The Williamstown Lumber Co. has been incorporated, with authorized capital of \$20,000, by J. W. Ryder, W. A. McKenzie, N. W. Athey and others, for the manufacture of rough and dressed lumber, sash, doors, blinds and builders' novelties.

#### BURNED.

Bristol, Tenn.—Virginia & Southwestern Railway Co.'s machine shops; loss \$50,000.

Galveston, Texas.—National Biscuit Co.'s factory; estimated loss \$30,000.

Toronto, Ark.—Carlson Plantation Gin, Sidney C. Well, administrator; loss \$1200.

Winston-Salem, N. C.—Cox & Son's tobacco factory; loss \$10,000.

#### BUILDING NOTES.

Athens, Ga.—Dormitory.—A dormitory will be built at the State University. Committee will advertise for plans and then for bids for construction.

Atlanta, Ga.—Hotel.—Miles & Bradt will superintend construction of the hotel reported recently to be erected by Hoke Smith, George Parrott and others, in accordance with plans and specifications of W. S. Denny. The improvements will include a house-telephone system.

Baltimore, Md.—Dwelling.—Allen McLane has given contract to J. J. Walsh & Son for erection of a \$14,000 dwelling.

Baltimore, Md.—Stockhouse.—The J. Fred Weissner & Sons Brewing Co. has awarded contract for erection of its stockhouse, lately reported, to Frederick Decker & Sons; cost, about \$50,000.

Beaumont, Texas—Business House.—F. M. Eldridge of Nashland, Texas, has closed contract for erection of one-story brick business house 20x50 feet, to cost \$5000, in Beaumont.

Bryan, Texas—Convent.—George W. Jenkins has received contract at \$34,042 for building the Ursuline Convent. Contract does not include electric lighting, plumbing, sewerage and wall around the grounds, contracts for which have not yet been awarded.

Chattanooga, Tenn.—Business Block.—Mrs. Arthur Yager of Georgetown, Ky., will build a four-story brick business building in Chattanooga to cost \$15,000.

Chipley, Fla.—School.—The city will erect school building. Address "The Mayor."

Clarksville, Ga.—Warehouse.—The Clarksville Tobacco & Manufacturing Co. will build a warehouse.

Corsicana, Texas—Apartment-house.—Ralph Beaton contemplates building a modern apartment-house.

Corsicana, Texas—Hotel.—Jas. Garrity has purchased building, which will be remodeled to a hotel.

Crowley, La.—Warehouse.—Gaar, Scott & Co., Richmond, Ind., are building warehouse at Crowley for storing machinery.

Dallas, Texas—Warehouse.—C. A. Gill & Sons, architects, will receive sealed proposals until January 12 for erection of one-story and basement brick warehouse 55x110 feet, and for remodeling old building 50x90 feet for A. A. Jackson. Certified check for \$500 must accompany each bid. Bond required and usual rights reserved.

Darlington, S. C.—Warehouse.—John Coleman is building a bonded warehouse of brick and granite, 55x225 feet.

Durham, N. C.—Library.—Hayden, Wheeler & Schwend of Charlotte have prepared plans for a library building to cost about \$50,000 for Trinity College.

El Paso, Texas—Depot.—The Southern Pacific Railway Co. will erect new depot at El Paso.

El Paso, Texas—Machine Shops.—The Southern Pacific Railway Co. will enlarge its El Paso shops.

Eureka Springs, Ark.—Hospital.—Mrs. R. C. Kerens of St. Louis, Mo., will build a \$50,000 hospital at Eureka Springs.

Fort Fremont, S. C.—Buildings.—Stanley D. Embick, quartermaster, will receive sealed proposals until February 2 for constructing three frame buildings. Information furnished on application.

Fort Washington, Md.—Bakehouse.—Sealed proposals will be received by constructing quartermaster, 419 North Washington street, Alexandria, Va., until January 26 for constructing frame bakehouse, with brick oven and chimney, including electric



wiring and necessary plumbing. Information regarding plans and specifications may be obtained at offices of depot quartermaster, Baltimore, Philadelphia, New York and above office; Abe S. Bickham, quartermaster.

Galveston, Texas.—Roundhouse, etc.—The Gulf, Colorado & Santa Fe Railroad Co. will build a brick roundhouse to cost \$10,000 and a \$10,000 brick freight depot; L. J. Polk, general manager.

Gonzales, Texas.—Mill Building.—Gonzales Cotton Mills awarded contract to Henry Kane at \$43,144 for erection of mill building.

Jacksonville, Fla.—Store Building.—Dr. Neal Mitchell has purchased the Forsyth street portion of Everett Hotel, and is having plans made by A. E. McClure for converting it into store building.

Kansas City, Mo.—Mercantile Building.—The Jones Dry Goods Co. will erect a six-story white enamel brick building to cost \$100,000.

Leesville, La.—Opera-house.—Efforts are being made to organize company for the erection of opera-house. Address J. B. Edwards.

Leonardtown, Md.—Courthouse.—The B. F. Smith Fireproof Construction Co. of Washington, D. C., has contract at \$11,350 for rebuilding the courthouse at Leonardtown.

Lexington, Ky.—Hotel.—Brooks Curry has awarded contract to the Combs Lumber Co. for the erection of a \$6000 hotel.

Mineral Wells, Texas.—Hotel.—D. G. Galbraith has awarded contract for a 100-room hotel to be built of rock.

Mobile, Ala.—Freight Depot.—Carthwait & Co. of Chicago have contract for erection of \$50,000 freight depot for Louisville & Nashville Railroad Co.

Norfolk, Va.—Jail.—The city will build a jail to cost \$81,000. Address "The Mayor."

Norfolk, Va.—Depot.—E. Tatterson has contract at \$16,000 for erection of the Norfolk & Atlantic Terminal Co.'s depot, to be of brick and iron, after plans by John K. Peebles.

Rayne, La.—Building.—Mervine Kahn will erect a two-story brick business building 38x50 feet.

Richmond, Va.—Office Building.—The Morlock Manufacturing Co. has purchased site for \$14,500 on which to erect an office building.

Richmond, Va.—Jail.—Finance committee has recommended to the city council the appropriation of \$60,000 to build new jail (lately reported) on the present site; W. E. Cutsaw, city engineer.

Shreveport, La.—Hotel.—Miss Lizzie Reynolds has had plans made for a three-story brick hotel building 70x150 feet, and will shortly advertise for bids for erection of same.

Valdosta, Ga.—Hotel.—Plans and specifications prepared by S. P. Fulghum will be ready for contractors by January 15 for erection of new hotel, lately reported, by the Valdosta Hotel Co.; capital \$50,000. Address W. P. Roberts.

West Palm Beach, Fla.—Hotel.—Joseph Jefferson, care of Royal Poinciana, has purchased site for \$50,000 and will, with Mayor Wilmer Whilden, erect a \$100,000 tourists' hotel, five stories, brick, fireproof and containing electric-light plant.

Williamson, W. Va.—Courthouse.—The city will hold an election on February 14 to decide the issuance of \$25,000 of bonds for erection of Mingo county's courthouse. Address County Clerk.

## RAILROAD CONSTRUCTION.

### Railways.

Alexandria, Va.—It is reported that work is about to begin upon what is known as the Great Falls & Old Dominion Electric Railroad, which will be built through Alexandria. Washington parties are reported as interested in the scheme.

Amarillo, Texas.—Another railroad company has been formed to build a railroad line to terminate at Amarillo. It is entitled the Oklahoma & Western Railroad, and is capitalized at \$2,000,000. It is to be constructed from Oklahoma City to Amarillo, an estimated distance of 185 miles. James Campbell and F. J. Wade of St. Louis and D. C. Lewis of Oklahoma City are directors in the company.

Baltimore, Md.—It is reported that surveys are being made in the interest of a railroad from Towson, Md., through the suburbs of Baltimore to terminate on tidewater at Canton. It is understood that the survey is being made for an extension of the Baltimore & Lehigh, and that Messrs. Alexander Brown & Sons of Baltimore are interested. The president of the Baltimore & Lehigh

Company is John Wilson Brown at Baltimore.

Berwick, La.—The latest report concerning the Teche Electric Co.'s railroad is to the effect that contracts will be let next month for this line, which is to be forty-five miles in length. F. F. Myles, 822 Gravier street, New Orleans, is the principal promoter. It is to be built from New Iberia to Berwick.

Blittinger, Md.—The railroad under construction between Niverton and Blittinger has been graded, and it is expected to begin tracklaying in a few weeks. Jennings Bros. of Lopez, Pa., are interested in the project.

Blackford, Ky.—It is announced that the Kentucky Western Railroad Co. is considering an extension to Providence, a distance of five miles from its present terminus. The road has been built from Blackford to Dixon, a distance of nineteen miles. Irving H. Wheatcroft at Dixon is general manager.

Burgin, Ky.—A report is current that the Southern Railway Co. has finally decided to build the extension which has been under consideration between Burgin and Jellico. The estimated distance is 105 miles. By this route the Southern will have an independent line between Louisville and Knoxville, Tenn., over its own tracks. W. H. Wells at Washington is engineer.

Covington, La.—Mr. Frank B. Hayne of New Orleans has purchased a controlling interest in the East Louisiana Railroad, and it is understood has decided to extend it to Franklinton, a distance of twenty miles from its present terminus, as soon as possible.

Cowen, W. Va.—The latest report concerning the Cowen & Greenbrier Railroad is to the effect that construction work is to begin about February 1. The estimated length of the road is twenty-five miles. A. C. Hays, 201 Ferguson Building, Pittsburg, Pa., is chief engineer.

Dothan, Ala.—The latest report concerning the Dothan, Hartford & Florida Railroad is to the effect that it is to terminate at St. Joseph, Fla., and that the necessary surveys have been made. The estimated length is 130 miles. J. P. Pelham at Dothan is president.

Ensley, Ala.—It is stated that the Ensley Southern Railroad between Ensley and Parish will be completed by April 1. It will be thirty-six miles in length.

Hagerstown, Md.—Christian Lynch, president of the Hagerstown Railway Co., writes the Manufacturers' Record that preliminary surveys have been made for the proposed extension to Boonsboro, but that no decision has been reached in the matter as yet.

Hamilton, Texas.—J. L. Spurlin and others have organized the Hamilton Railroad Right of Way Co. to obtain property on which to build railroads.

Hawkinsville, Ga.—Work has begun upon the extension of the Hawkinsville & Florida Southern Railroad between Ausley and Hawkinsville. It is expected to complete the extension by July 1. J. W. Pope at Atlanta is president of the company.

Jackson, Miss.—It is reported that the Kingston Lumber Co. is considering the construction of a railroad between Jackson and Laurel.

Jackson, Miss.—Messrs. C. D. Smith & Co. of Birmingham, Ala., it is reported, have secured a contract for constructing thirty miles of line in the interest of the Illinois Central system in Panola county. The road will be a branch of the Yazoo & Mississippi Valley division. The contract represents about \$300,000.

Kansas City, Mo.—J. W. Harris of Texarkana, Ark., has secured the contract to construct 140 miles of the Kansas City, Mexico & Orient Railroad. The work is to be completed by October 31. A. E. Stillwell of Kansas City is president of the company.

Little Rock, Ark.—The Little Rock Southwestern Railroad Co. has been incorporated in Arkansas, with \$3,500,000 capital stock, to build a railroad between Little Rock and the State line between Arkansas and Louisiana. The estimated length of the road is 138 miles. Among those interested are L. K. Hyde and F. D. Hyde of Tusculum, Pa., and P. K. Roots of Little Rock.

Little Rock, Ark.—It is reported that the plan to complete the Mississippi & Little Rock Railroad from a connection with the St. Louis Southwestern through Little Rock has been revived by R. W. Worthen, who is one of the original promoters. About twenty miles of extension would be required to complete it.

Llano, Texas.—The Eagle Pass, Fredericksburg & Llano Railroad Co. has been organized, with \$250,000 capital stock, to build a road between Eagle Pass and Llano. Among those interested are C. C. Drake of Eagle Pass and W. J. Moore of Llano.

Morehouse, Mo.—It is expected to complete the St. Louis, Morehouse & Southern Railroad, which is now being constructed from Morehouse to Pascola, Mo., a distance of forty-three miles, during the present year. W. H. Harrison at Morehouse may be addressed.

Paris, Texas.—The Paris, Choctaw & Little Rock Railway Co. has been formed, it is stated, to build the proposed connection between Paris and some railroad entering Little Rock. The line in Texas would reach as far as the Red river at what is known as Hoop's Ferry. The Paris Commercial Club is interested in the project.

Richmond, Va.—It is stated that the Cleveland Construction Co. of Akron, Ohio, has secured the contract to build the electric line between Richmond and Petersburg. William Christy is president, and W. E. Davis, general manager, of the company. J. L. Haner of Cleveland is one of the directors. The road will be about twenty-five miles in length.

Rosedale, Miss.—The branch of the Illinois Central between Rosedale and Boyle has been completed and placed in operation.

San Antonio, Texas.—It is announced that the International & Great Northern Railroad Co. has determined to relay its track on the San Antonio division for a distance of fifty miles with 75-pound rails, and has secured the necessary material for this purpose. Leroy Trice at Palestine, Texas, is vice-president.

Savage, Md.—The Maryland Granite Co. has secured permission to build a railroad about two miles long to reach quarries which it controls at Guilford, Md.

Sparrow's Point, Md.—The United Railways & Electric Co. has decided to build an extension of its trolley system from Dundalk to Sparrow's Point and North Point. A company called the Dundalk, Sparrow's Point & North Point Railroad Co. has been chartered to carry out the enterprise, capitalized at \$250,000. The length of the road is estimated at five miles. Among those interested are Nelson Perlin, president of the United Railways Company of Baltimore, and W. A. House, general manager.

Sylvania, Ga.—It is announced that the Sylvania Railroad Co. has decided to build the proposed extension from Sylvania to Girard, a distance of twenty miles. P. D. Duffin is president of the company.

Thomaston, Ala.—It is expected to extend the Birmingham, Selma & New Orleans Railroad to Linden by the way of Thomaston during the present year, a distance of twenty-three miles. F. M. Abbott at Selma, Ala., is president of the company.

Vicksburg, Miss.—The Board of Trade of Vicksburg has appropriated \$2500 in aid of the survey for the proposed railroad between Vicksburg, Canton and Birmingham, Ala. The estimated length of the line is 275 miles. Among those interested is D. Levy of Canton, Miss.

West, Texas.—E. D. Skinner and others have organized the West & Ross Railroad Co., with \$10,000 capital stock, to build between the towns mentioned, a distance of seven miles.

Woodworth, La.—R. A. Long, one of the promoters of the Woodworth & Louisiana Central Railway Co., writes that work has commenced upon this road between Lamorie and Woodworth, a distance of six miles. It will connect the Kansas City, Watkins & Gulf Railroad with the Texas & Pacific system at Woodworth. The company proposes connecting the line eventually with the Kansas City Southern system, making it a total length of about fifty miles. Mr. Long is president of the Long-Bell Lumber Co. of Kansas City, Mo.

### Street Railways.

Chattanooga, Tenn.—A separate company has been formed to build the electric railroad from Chattanooga to Lookout Mountain, capitalized at \$250,000. S. W. Divine is at the head of the company.

Corsicana, Texas.—A correspondent of the Manufacturers' Record writes that New York parties are interested in the proposed electric railroad in Corsicana.

Houston, Texas.—The Houston Street Railway Co. has decided to build an extension to what is known as Fairview, in the suburbs, and has asked for certain concessions from the city with the view of constructing it as soon as possible.

Pine Bluff, Ark.—W. H. Keyser of Chicago, who is interested in the proposed street railroad, has secured an extension of its franchise until April 1 from the city authorities.

Richmond, Va.—The Westhampton Park Railway, which is being promoted by John C. Robertson of Richmond, will be three and one-half miles long, and it is announced that work will begin upon it as soon as right of

way is secured. It will be operated by electric motors.

Tusculum, Ala.—C. H. Barry has secured a franchise from the city authorities to build an electric railway, which is to be completed by December 31 of the present year.

## Machinery, Proposals and Supplies Wanted.

**Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.**

Advertising Novelties.—Whitehead & Yeatts, Chatham, Va., want prices on glass paper-weights.

Agricultural Machinery.—G. E. McNeill, M. E., Catawba, N. C., wants prices and circulars on 12 to 15-horse-power traction threshing machine; also price-list of engineers' tools.

Automobile Supplies.—See "Woodworking Machinery."

Belted.—See "Woodworking Machinery."

Boiler and Engine.—See "Saw-mill."

Boiler and Engine.—John R. Bernard, Fredericksburg, Va., wants a 50-horse-power engine and boiler.

Boiler and Engine.—Roxboro Manufacturing Co., Roxboro, N. C., wants a 12 or 15-horse-power engine and 20-horse-power boiler, new or second-hand.

Boilers and Engines.—See "Railway Equipment."

Box Manufacturers.—Southwestern Dry Plate Co., S. W. Bogy, secretary, Corsicana, Texas, wants prices on wooden cases to hold twenty to thirty dozen dry plates for shipping.

Brick Machinery.—Boonville Vitrefied Brick & Tiling Co., 86 Main street, Boonville, Mo., wants addresses of makers of brick machinery.

Brick Machinery.—John R. Bernard, Fredericksburg, Va., wants to correspond with manufacturers of brick machinery.

Bridge.—Mayo Land & Bridge Co., Richmond, Va., is receiving bids on the construction of bridge.

Broom Machinery.—John Watson, Marietta, Ga., wants full information regarding broom machinery.

Building Materials.—Collins Colliery Co., Glen Jean, W. Va., is in the market for elevator, store fixtures, office furniture, etc.

Canning Machinery.—"Promoter," Box 282, Clarksville, Ga., wants to correspond with makers of canning machinery.

Carousels.—See "Merry-go-Rounds."

Chemical Manufacturers.—Southwestern Dry Plate Co., S. W. Bogy, secretary, Corsicana, Texas, wants prices on chemicals used for making dry plates; wants prices delivered at Houston, Texas.

Cotton Mill.—Chinnabee Cotton Mills, T. S. Plozman, president, Talladega, Ala., wants full equipment for 5000-spindle yarn mill, with steam-power plant.

Crusher.—D. C. Statler Co., Piqua, Ohio, is in the market for a crusher of about 11x18 jaw opening.

Cutting and Polishing Plants.—Joseph Hyde Pratt, Chapel Hill, N. C., wants to have some agate cut into round disks and polished.

Drainage.—Sealed proposals will be received by board of levee commissioners, Alexandria, La., until February 6 for improving drainage in accordance with plans and specifications. Bond required. For blank forms of proposals, etc., apply to board of State engineers at New Orleans or to J. G. White, president, Alexandria.

Dredging.—William T. Russell, major engineers, United States Army, Mobile, Ala., will receive proposals until January 31 for dredging and maintaining channel and basin between Ship Island and Gulfport, Miss. Information on application.

Electric-light Plant.—Cypress Lumber Co., Apalachicola, Fla., contemplates buying electric-light plant for lumber mills.

Elevator.—See "Building Materials."

Engine.—Coketon Lumber Co., Coketon,



W. Va., wants a second-hand 15-horse-power engine for running a pulp cut-off.

Engine.—Columbia Milling Co., Columbia, Va., wants a 25 to 30-horse-power gasoline engine.

Engineers' Tools.—See "Agricultural Machinery."

Fertilizer Factory.—See "Mining Machinery."

Furniture.—See "Building Materials."

Furniture Factory.—Kincaid Furniture Co., W. F. Kincaid, secretary, Cleveland, N. C., will buy outfit for \$20,000 factory as soon as specifications are ready.

Furniture Machinery.—See "Woodworking Machinery."

Gasoline Engine.—See "Engine."

Heating System.—W. W. Phifer, chairman committee, Charlotte, N. C., will open bids February 1 for installation of heating system in church building. Plans of building can be had of Hayden, Wheeler & Schwend, architects.

Knitting Mill.—Homer M. Price, Dallas, Texas, wants to correspond with manufacturers of machinery for making hosiery.

Machine Tools.—Peacock's Iron Works, Selma, Ala., wants to correspond with manufacturers of pneumatic tools.

Machine Tools.—Dawson Manufacturing Co., J. P. Chapman, secretary, Basic City, Va., wants to buy lathes, milling machines and all sorts of automobile supplies.

Merry-go-Rounds.—I. H. Kearney, Franklinton, N. C., wants addresses of parties handling merry-go-rounds.

Mining Machinery.—Hamilton County Mining & Phosphate Co., Dunwoody Jones, general manager, 232 Capitol avenue, Atlanta, Ga., wants to correspond with manufacturers of machinery for mining phosphate and manufacturing fertilizers.

Ochre Mills.—See "Paint Plant."

Paint Plant.—J. B. Earle, Waco, Texas, is in the market for a complete ochre and mineral paint milling plant.

Paper-box Manufacturers.—Southwestern Dry Plate Co., S. W. Bogy, secretary, Corsicana, Texas, wants prices on paper boxes for packing dry plates.

Pipe Machinery.—A. S. Jones, Turin, Ga., wants addresses of manufacturers of clay and cob tobacco pipe machinery.

Piping.—Sealed proposals addressed to "Board of Awards," Baltimore, Md., will be received until January 16 for removing old steam-pipe line, together with such auxiliary piping as may be required by plans and specifications, copy of which may be obtained at office of Alfred M. Quick, water engineer.

Pulleys and Shafting.—See "Woodworking Machinery."

Pump.—John R. Bernard, Fredericksburg, Va., wants a small pump.

Railway Equipment.—Peacock's Iron Works, Selma, Ala., wants (dealers' prices) ten to fifteen miles of 50-pound rails, 30 to 40-ton locomotive, standard gauge, four 100-horse-power stationary boilers, one 175-horse-power engine, one complete saw-mill outfit and one 200-horse-power engine.

Railway Equipment.—Hope Coal Co., W. T. Thayer, treasurer, Charleston, W. Va., wants to buy fifty or sixty tons of new or second-hand 25 to 30-pound T rails.

Railway Equipment.—Lidgerwood Manufacturing Co., J. H. Dickinson, Southern engineer, Atlanta, Ga., is in the market for a standard or narrow gauge second-hand locomotive for logging purposes, about thirteen to seventeen tons, f. o. b. Blakely, Ga.

Road Roller.—Sealed proposals addressed to "Board of Awards," Baltimore, Md., will be received until January 16 for furnishing a five-ton steam road roller as per specifications on file; R. T. Fendall, city engineer.

Saw-Mill.—See "Railway Equipment."

Saw-mill.—A. J. Moye, Farmville, N. C., is in the market for a saw-mill complete, 15-horse-power engine and 20-horse-power boiler.

Saw-mill Supplies.—De Louch Mill Manufacturing Co., Atlanta, Ga., wants information regarding small "V" track iron for use on small saw-mills.

Sewers.—City of Hattiesburg, Miss., will open bids January 7 for construction of pipe sewers after plans, etc., now ready; C. W. Rich, mayor.

Soap Machinery.—W. C. Weatherford, 474 Occene street, Athens, Ga., wants addresses of makers of soap-factory machinery.

Tobacco-pipe Machinery.—See "Pipe Machinery."

Veneering Machinery.—See "Woodworking Machinery."

Ventilating Apparatus.—Pineville Coal Co.,

Middlesborough, Ky., wants addresses of manufacturers of fans for ventilating mines, to be run either by steam or electricity.

Ventilators.—Sealed proposals addressed to "Board of Awards," Baltimore, Md., will be received until January 16 for furnishing material and constructing two ventilators on roof of pump-house, according to plans and specifications, which may be obtained from Alfred M. Quick, water engineer.

Water-wheels.—S. T. Early, Dillsboro, N. C., wants addresses of makers of steel over-shot water-wheels.

Woodworking Machinery.—Bryson & Johnson, Siloam, Ga., want addresses of makers of veneering machinery.

Woodworking Machinery.—H. Rogers, 1341 Third avenue, New York, N. Y., wants full set of slack-barrel heading machinery.

Woodworking Machinery.—E. J. Buchanan, president Dixie Furniture Co., Lexington, N. C., will want complete outfit for manufacturing furniture.

Woodworking Machinery.—Hoffman & Mull, Baker, N. C., will need door and sash sticking machine, mortising machine, panel raiser, tenoner, band saw and shaper.

Woodworking Machinery.—A. F. Mears, Mears, Va., wants to buy one or two second-hand cylinder saws, planer, matcher, veneering machine, molding machine, belting, pulleys and shafting.

Woodworking Machinery.—Blades Lumber Co., Elizabeth City, N. C., is in need of machinery for veneering factory, making butter trays, berry baskets, peach baskets and barrels.

## TRADE NOTES.

Fuller's-Earth Deposit.—A superior deposit of fuller's earth, located in the South, is offered for sale by "Confidential," care of Manufacturers' Record.

Foundry and Machine Tools.—The complete equipment recently used in a foundry and machine shop at Petersburg, Va., is offered for sale. Address Mrs. M. E. Alexander.

Saw-Mill Sale.—A complete sawing plant of about 25,000 feet capacity daily is now offered for sale at Tampa, Fla. Every modern equipment to facilitate production is ready. Operations now being conducted. For further details address P. O. Box 597.

Opportunity for Molder.—An established manufacturing business in the South is desirous of extending and offers an opportunity of particular worth to a practical and competent molder willing to invest \$3000 or more. Letters addressed "M., care Manufacturers' Record," will be forwarded.

Wants Cotton-Mill Location.—A party who contemplates the establishment of a spinning and weaving mill in the South is desirous of locating in a community where local capital will become interested. Location in North or South Carolina is preferred. Address "Spinning Mill," care Manufacturers' Record.

Civil and Mechanical Engineers.—Messrs. Weatherford & Hildebrand, 43½ Madison street, Memphis, Tenn., are having their offices entirely refitted and providing themselves with every convenience to handle their increasing business in civil and mechanical engineering, and in soliciting home and foreign patents.

Industrial Water Co.—The Industrial Water Co. of New York city announces that it has but one office address, that being 15 Wall street, in the city named. This company constructs and installs apparatus for softening and purifying water for bleacheries, textile mills, sugar-houses, paper mills and all other industrial uses.

Dust-Collecting Systems.—Equipments for dust collecting are used by some of the most prominent manufacturers, and the systems built by the Sterling Blower & Pipe Manufacturing Co. of Hartford, Conn., are leaders in this field. The company's New York offices are at 85 Liberty street, and throughout the State leading factories have installed the Sterling system.

Desirable Opportunity.—A Southern opportunity is offered in desirable form by S. S. Farmer of Murphy, N. C. Mr. Farmer offers for sale a millhouse (built for 25-barrel flour equipment), with corn mill running at present. Over 100 horse-power from water flow is available all the year, and extensions of the property may be readily effected to take in other classes of manufacturing.

Cypress Lumber.—Cypress is a wood whose virtues have been appreciated during many centuries. The manufacture of this

wood into marketable form, such as doors, sash, blinds, shingles and general lumber employs many of the most important lumber plants of the South. The Cypress Lumber Co. at Apalachicola, Fla., is one of these. It has a Boston office at 155 Milk street.

Steam Capstans.—The latest improved marine machinery includes that widely-known device, the "Providence Capstan." This is manufactured by the American Ship Windlass Co., Providence, R. I., originators of many widely-used steam devices for installation on ships. Recent orders for the capstan included four from a Glasgow shipbuilder. Another was shipped to Liverpool per cable order.

## TRADE LITERATURE.

Spirit of the Century.—The 1901 calendar issued by Armour & Co. of Chicago is intensely American in its features. The colored engravings represent scenes of a stirring and bellicose nature in the life of the republic. "The Spirit of 1776" begins the series and "Roosevelt 1898" ends it.

Carey's Calendar.—The Philip Carey Manufacturing Co. of Lockland, Ohio, issues a calendar for this year. The colored background to the date pad represents a view of many house-tops whereon are workers busily engaged in laying Carey's magnesia flexible cement roofing, of which the Carey Company is sole manufacturer.

Agricultural and Lumber Machinery.—A booklet presenting in brief the leading manufactures of the well-known A. B. Farquhar Co. has been issued. This company's plant at York, Pa., is one of the most complete and extensive of its character. The booklet refers principally to engines and saw-mills, threshing machinery, grain and fertilizer drills and planters.

When Uncle Sam Gives the Word.—The calendar for the new year issued by the Marion (Ohio) Steam Shovel Co. is very attractive. This company manufactures the character of machinery indicated by its title. The calendar presents a colored map showing the Western Hemisphere, with a land shovel on one side of Nicaragua and a dredge shovel on the other side, as if ready to cut the Nicaraguan canal through as soon as Uncle Sam gives the word.

Coating for Heated Surfaces, etc.—The durability, not the price, determines the economy of a protective paint. This is especially true of a coating for steel smokestacks; it is also true of boiler fronts and other heated surfaces. Dixon's silica-graphite paint is offered as a coating of the nature indicated. Its reputation for effectiveness and durability is continually being enhanced by the experience of buyers. The Joseph Dixon Crucible Co. of Jersey City, N. J., has issued an interesting leaflet about this paint.

Cross-Cut Saws.—The superior qualities of the Atkins high-grade cross-cut saws have thoroughly established the reputation of this brand in all parts of the world. This high standard of excellence has been secured by employing only the highest grade of crucible steel and the most skillful workmen. This, in connection with the most modern methods of manufacture and improved appliances, has enabled the manufacturer to produce cross-cut saws unexcelled in metal, temper and finish. E. C. Atkins & Co. (Inc.), Indianapolis, Ind., have issued a booklet about these saws, its product.

Modern Mail Chute.—The potential energy of a two-cent stamp is rarely realized. Improvements in postal facilities have been so comprehensive that nearly every country is as accessible to the written message as is our nearest neighbor. One of the most important adjuncts to postal facilities is the mail chute seen in so many American buildings. The Cutler Manufacturing Co. of Rochester, N. Y., manufactures the Cutler patent mailing system, probably the most popular device of this kind. A leaflet relative to the system is of interest, and interested parties may obtain one by requesting copy.

Power and Transmission.—These two subjects are fraught with great interest to all operators of power plants. The production of power and its transmission in the most efficient and economical manner are questions that claim the efforts of the most experienced of engineers. "Power and Transmission," published at Mishawaka, Ind., contains much interesting information concerning these questions. Factory economies and power find their full discussion in this publication; it is a quarterly, and gives especial attention to the efficiencies of rope drives, the value of which are continually

being appreciated on an increasing scale by manufacturers, resulting in their adoption. Send for specimen issue; the twentieth-century number is ready.

For Every Property-Owner.—A neat pamphlet that is of interest to every property-owner has been issued. Its title is comprehensive, being "Facts About a Fire Watchman—One that Never Sleeps or Rests or Takes a Holiday." The danger of fire in houses and hotels, as well as in other classes of buildings, is familiar, and the booklet mentioned treats of the readiest and most economical manner of preventing disastrous and damaging conflagrations. The International Sprinkler Co., 517 Arch street, Philadelphia, manufacturer of the system for fire protection bearing its name, issues the booklet. Send for one.

Lunkenheimer Calendar.—This daily reminder of the day and date is so designed as to be most useful, presenting, as it does, the day, month and date in extra large numerals (occupying a space about 8x9½ inches), with a smaller summary showing the entire month, all on one sheet. The character of this publication makes it especially suitable for use in large rooms of the manufactory or business department. The Lunkenheimer Company is the well-known manufacturer of oil and grease cups, pop valves, lubricators, injectors, gate valves and kindred products and general brass goods; its plant is located at Cincinnati.

Self-Oiling Engines.—Engine users are advised to direct their attention to the horizontal self-oiling engines now offered as the latest product of many years' experience in this exacting field. These engines are built from entirely new designs and patterns embodying in all details the highest development of modern high-speed engine practice. They are constructed by the Ball Engine Co., Erie, Pa., and their most distinctive feature is the self-oiling system; built for belted or direct connection. A thorough detailed description, aided in its elucidation by especially clear photographs, can be obtained from a perusal of catalogue "M," just issued.

Complete Southern Plant.—General manufacturers for the production of machinery of all kinds are continually becoming established in the South. Not but that many have been operating successfully there for years. A reminder of this is the artistic 1901 calendar issued by the Southern Engine and Boiler Works of Jackson, Tenn. This calendar pictures "Old-World Fables," accompanied by couplets of direct reference to them. The engravings are models of the highest art of the printer in colors. The Southern company's products are most comprehensive, including, as they do, engines, boilers, saw-mills, corn mills, grist mills, architectural iron work, cotton gins, shafting, pulleys and many other classes of apparatus in regular demand even at times when industrial activity is not so marked as at present.

Wood-Sawing and Splitting Machinery.—The preparation of wood for fuel purposes by the use of machinery is rapidly displacing the old-time methods of hand manipulation. The production of machinery so adapted as to best serve the sawer and splitter of stove-wood has enlisted the services of ingenious inventors. Not only inventive ability is required, but also complete plants for machinery building, and the Chattanooga (Tenn.) Machinery Co. possesses the requisites mentioned. This company has introduced a line of machinery for sawing and splitting wood that is rapidly being installed in all parts of the country. The company's booklet regarding this character of equipment is completely illustrated, and describes the different machines offered, which are claimed to be of the greatest economy, capacity and durability. Those interested can have booklet upon request.

Boston Steel-Plate Fans.—The science of heating and ventilating has received special attention from engineers during recent years. Improvements in apparatus for the purposes indicated have been important. In various industrial plants these mechanical systems serve their best purposes, exhausting foul air from laboratories, noxious gases from chemical laboratories, smoke and gases from blacksmith shops, steam from dye-houses, and in numerous other establishments. The Boston Blower Co. of Hyde Park, Mass., has been a pioneer in this branch of design and construction, and its Boston Hot-Blast System has been installed with unqualified success in many and varying plants. The company's catalogue No. 51 illustrates and describes the Boston steel-plate fans and other apparatus and supplementary equipment. Interested readers may have copy by requesting it.

## FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

## THE SOUTHERN RAILWAY.

## A Review of Its Financial Advance by Comparison.

[The Daily Stockholder.]

There can hardly be a shadow of a doubt but that stock-market interest the coming year will largely concentrate upon the low-priced shares of recently-reorganized railroads. These include many still attractive issues, but, as experience is proving, they are moving out of the range which this term covers, and the places of the one-time favorites are being taken by those which have been comparatively neglected. That the latter must step forward seems obvious, if for no other reason, from the fact that the properties they represent are showing earnings which make of them splendid speculative possibilities, as in more than one case it can be seen that comparatively small further gains in profits would bring them in sight of dividends, whereas gains continued in anything like recent volume would the more rapidly enhance their prospects.

This by way of a short preliminary to a few points with regard to Southern Railway common stock, which we may be able to show is not likely to be anywhere but well to the fore in the brisk trading which the market for stocks is likely to record the coming year. It will be interesting, too, in order to emphasize certain features, to compare it with Atchison, which not so long ago sold where Southern Railway has been selling, and which has moved up under influences which should come within the experience of the latter.

The price of Atchison is just about double that of Southern Railway, and it is this difference that may largely be reduced by just such developments as have given the former that advantage as to position, the principal of these being a reduction in the expense ratio and the consequent raising of the total of net earnings, facilitated as this undoubtedly will be by a further expansion in earnings due to that progress in industrial growth in the South which may be said only to have just begun.

We may, however, make one or two comparisons as to the respective charges and outstanding capital issues of the two roads. Atchison is reporting earnings on 7808 miles, Southern Railway on 6444 miles. The funded debt of both roads as of July 1 last, singularly enough, works out at exactly \$1236 per mile, so that neither has any advantage in this respect. But while Atchison has preferred stock of \$114,199,530, or \$14,613 per mile, that of the Southern Railway is only \$60,000,000, or \$9310 per mile, which would, of course, give the latter a better position for its common stock were all other things equal, as its charges and full 5 per cent. dividends would call for only \$1701 per mile, as against \$1976 per mile for the former.

	Atchison.	So. Rwy.
Miles operated.....	7,808	6,444
Funded debt.....	\$191,236,500	\$109,970,200
Per mile.....	24,492	17,081
Int., taxes, rentals, etc.	9,659,000	7,970,000
Per mile.....	1,236	1,236
Preferred stock.....	114,199,530	60,000,000
Per mile.....	14,613	9,310
Five per cent. divid'ds.	5,709,976	3,000,000
Per mile.....	731	465
Chgs. and divs. per mile.	1,976	1,701

Atchison, however, has been able to bring its operating expenses down to a low figure, and in this direction there is much room for a change in results on the Southern Railway, opening up a prospect of considerable improvement in earnings

for the stock. It may be that betterment work will have to run farther on the Southern Railway before Atchison's ratio of 60 per cent. for expenses (excluding taxes) could be reached, but this is a matter for conjecture and is not a certainty, and it necessarily raises a question which will not be lost sight of by speculative interests. When Atchison only three years ago barely earned its adjustment interest and showed a deficit of \$87,934, it would have been a wild guess to have hazarded that in 1900 it would show that interest earned by nearly \$10,000,000. Hence it may now be considered as looking pretty far ahead to figure out much for Southern Railway beyond full dividends on its preferred. But this is what would have resulted last year had the road been operated at Atchison's figure:

Gross earnings.....	\$31,200,870
Expenses, 60 per cent.....	18,720,522
Net earnings.....	\$12,480,348
Other income (net).....	300,000
Interest, taxes, rentals, etc.....	\$12,780,348
	7,970,000
	\$4,810,348
Five per cent. for preferred stock..	3,000,000
Bal. for common stock, 1.50 p. c..	\$1,810,348

Now, as a matter of fact, had the Southern Railway not expended out of earnings the amount it did last year on betterments the \$3,000,000 it showed for stock would have been nearly doubled and profits would have been equal to 5 per cent. for the preferred and about 2½ per cent. for the common. Even at 60 per cent. for expenses it can be seen that the revenues of the company would have to increase considerably to produce sufficient available net income to pay 4 per cent. on the common shares—after all, in the neighborhood of only \$7,000,000 or \$8,000,000—but to scout this as a possibility is to argue that the South has nothing more of productiveness in it than has been brought out; that Southern enterprise has come to a standstill; that the vast change wrought by the improved condition of the cotton industry is to go for nothing, and that the extraordinary development of other industries—iron and steel, for example—is to be arrested from this time forth and forevermore.

It will take some time for the necessary changes to work out to bring Southern Railway common to the place it will ultimately occupy, but these changes are in progress, and far-sighted people are not oblivious to the fact that, as in Atchison's case, as in the case of Northern Pacific, of Union Pacific, of others, too, that might be mentioned, they may take place at no distant period, and are nearer consummation than the date which anyone cares to name just at the present time.

Every indication, as far as we can see, points to Southern Railway as one of the prime speculative stocks, one that will be active and will advance on merit. The property is being made over in harmony with the made-over conditions of the section in which it operates. It is conservatively managed, and no risk need be run in making the statement that not a dollar's worth of business will escape it that can be legitimately obtained, not a dollar's worth that can be created in the future as we know it to have been created in the past.

The Southern Railway is a great property, one whose future is big with promise.

## Baltimore Savings Banks.

Signs are abundant that Baltimore has had a share of the recent prosperity in the South. This is quite natural as the outcome of the long existing intimate relations of the city and that section. That prosperity is not confined to particular individuals or groups of individuals is shown in the statements published on an-

other page of this week's issue of the Manufacturers' Record of the healthy condition of Baltimore's savings banks. Their exhibit reflects the comfortable situation of thousands of wage-earners in many lines of business and industry.

## New Corporations.

The bank recently organized at Mexia, Texas, has opened for business.

Howell Page of Boyceville, Va., is considering the organization of a bank in that town.

J. P. Withers is president of the First National Bank, recently organized at Howe, Texas.

The Delta Pythian Building Association has been organized at Delta, Fla., by P. W. McLean and others.

The Standard Investment Co. has been incorporated, with offices at Birmingham, Ala., and capitalized at \$250,000.

R. D. Hunter and John C. Phelan are interested in a savings and trust company being organized at Fort Worth, Texas.

The Owensboro Savings Bank & Trust Co. of Owensboro, Ky., is capitalized at \$100,000. Among those interested in the organization are J. H. Parrish and E. Rice.

J. L. Dent of Roberta, Ga., and S. H. Phelan of Savannah are interested in the Crawford County Bank, recently organized at Roberta with \$20,000 capital stock.

The Shadburn Banking Co. has been formed at Buford, Ga., with W. B. Shadburn, president, and B. Allen, vice-president. The company is capitalized at \$25,000.

Among those interested in the Albany National Bank, recently organized at Albany, Texas, are F. S. Webb and L. N. Hill. The bank is to be capitalized at \$50,000.

G. F. Smith of Atlanta is interested in the Mutual Benevolent Association of Georgia, recently chartered in that State, with offices at Atlanta. The company will do an insurance business.

## New Securities.

The Tennille Cotton Mills Co. of Georgia will issue \$35,000 in 6 per cent. bonds.

The town of Buena Vista, Ga., has decided to issue \$5000 in 6 per cent. bonds. The town clerk may be addressed.

The issue of \$45,000 in 5 per cent. bonds of Greenville, Ala., remain unsold. The town clerk will give further particulars.

It is stated that Northern parties have offered to purchase the issue of \$75,000 in 3½ per cent. bonds of the city of Petersburg, Va., at par.

Messrs. Seasongood & Mayer of Cincinnati have purchased the issue of Dallas county, Alabama, 4 per cent. bonds at a price which was about par.

## Financial Notes.

Mr. Blanchard Randall has been elected a director in the Safe Deposit & Trust Co. of Baltimore, succeeding Mr. Charles C. Homer, who has resigned. Mr. B. F. Newcomer has been re-elected president.

Mr. Jacob W. Hook has been elected vice-president of the Old Town Bank of Baltimore, and Mr. Milton B. Williams, cashier. Mr. Hook is a prominent merchant of Baltimore, and has been one of the directors of the Old Town Bank for a number of years.

At the annual meeting of the Continental Trust Co. of Baltimore the statement submitted to the board of directors showed that the undivided profits of the company for the year amounted to \$623,000. The company has added over \$1,000,000 to its surplus since its organization in 1899, in addition to paying div-

## TABLE OF CONTENTS.

	Page.
Where to Advertise.....	403
EDITORIAL:	
More Than Tiresome.....	403
The Cry of Industrialism.....	403
Politics for Business.....	403
Unification of Railway Interests.....	404
Fruits of Conservatism.....	404
Real Estate Agents Wanted.....	404
Gauging Southern Streams.....	404
Faith in the South.....	404
West Virginia's Coal Output.....	404
Good Times in the South.....	404
A National Problem.....	405
Combination for Cotton Farmers.....	407
The Value of Stream Gaugings.....	407
In the Birmingham District.....	409
In Progressive Monterey.....	409
Progress of Charleston.....	409
RAILROADS:	
Murphy Electric System.....	410
A Guide to Industry.....	410
Southern Railroads Prosperous.....	410
The Brunswick & Birmingham.....	411
Another Louisiana Line.....	411
An Important Project.....	411
Ballasting the Seaboard.....	411
In Good Condition.....	411
Chicago to Florida.....	411
Richmond to Petersburg.....	411
To Complete the Terminals.....	411
New Mississippi Line.....	411
Railroad Notes.....	411
\$150,000 Cement Works.....	411
The Birmingham District.....	411
FOREIGN TRADE:	
Business at Hilo.....	411
Cotton for Manchester.....	411
Launchings at Newport News.....	411
Coal for Nova Scotia.....	411
Notes.....	411
TEXTILES:	
To Develop Water-Power.....	412
Cotton Facts of 1900.....	412
The Cotton Movement.....	412
\$150,000 Woolen Kersey Mill.....	412
\$100,000 Mill for Talladega, Ala.....	412
Textile Notes.....	412
Quotations of Cotton Yarns.....	412
Cottonseed-Oil Notes.....	412
Fidelity in Service.....	412
LUMBER:	
Lumber Market Reviews:	
Baltimore.....	413
Jacksonville.....	413
Mobile.....	413
Pensacola.....	413
Beaumont.....	413
Lumber Notes.....	413
PHOSPHATES:	
Phosphate Markets.....	414
Phosphate and Fertilizer Notes.....	414
Trade Notes.....	414, 419
CONSTRUCTION DEPARTMENT:	
New Enterprises.....	415
Building Notes.....	417
Railroad Construction.....	418
Machinery Wanted.....	418
Trade Literature.....	419, 420
FINANCIAL NEWS:	
The Southern Railway.....	420
Baltimore Savings Banks.....	420
New Corporations.....	420
New Securities.....	420
Financial Notes.....	420

idends amounting to \$105,000. Mr. Charles K. Lord has been elected a director to fill a vacancy in the board. Mr. S. Davies Warfield was re-elected president.

"New Era" Gas Engines.—Gas and gasoline engines increase in popularity daily. Many users of power throughout the industrial world have become acquainted with the merits of these power furnishers and found them eminently satisfactory. For obvious reasons gas and gasoline can be utilized for engines in almost any locality. The New Era Iron Works Co., Dayton, Ohio, has perfected an engine of the type in question and earned a reputation of an enviable character for the machine. Catalogue of these engines may be obtained on request.

A Mammoth Calendar.—There has been issued a calendar of extra large size, showing but one day for each pad, and it is especially suited for large rooms in office or factory. The numerals alone occupy a space measuring about eighteen inches square, and consequently can be easily read at a considerable distance. This calendar comes from the manufacturer of the Singer sewing machines, which latter are known throughout the world, both in domestic and factory use. Each date pad tells briefly of some important efficiency in the Singer machine.